CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, June 4, 1903.

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PERSONAL.

Mr. Henry L. Cooper has resigned as Superintendent of Public Works of the Hawaiian Islands.

Mr. Arthur L. Gould has been appointed Superintendent of the Water-Works of Portsmouth, N. H.

Mr. E. E. Davis, Superintendent of the city water and light plant of Paris, Tenn., has resigned to accept a position in Dyersburg, Tenn.

Mr. John Overholt has been appointed General Superintendent of the Denver, Enid & Gulf Ry., with headquarters at Enid, Okla.

Mr. F. A. Molitor, M. Am. Soc. C. E., has removed his office from Little Rock to Fort Smith, Ark., where he is acting as chief engineer of a railway.

Mr. Charles L. Dinsmore is appointed Western representative of The Railway Equipment Publishing Co., of New York, with office at 323 Western Union Bldg., Chicago, Ill.

Mr. S. Taylor Wilson, Vice-President and Chief Engineer of the firm of Tippett & Wood, general contractors, of Phillipsburg, N. J., has been elected President of that firm.

Mr. J. W. Higgins, General Superintendent of Transportation of the Illinois Central Ry., has resigned, and is succeeded by Mr. I. G. Rawn, Assistant to the Second Vice-President.

Professor W. M. Bruce, formerly of the University of Chicago, has accepted a position with the Kennicott Water Softener Co., of Chicago, Ill., in charge of the laboratories of that company.

Mr. George K. Fischer, who superintended the construction of the Highland Bay and United States Mining smelters, has been selected as engineer for the Newhouse Mines & Smelters Co., of Utah.

Prof. Amasa Trowbridge, of Lehigh University, has been appointed Adjunct Professor of Mechanical Engineering at Columbia University, New York, in place of Prof. Wm. L. Cathcart, resigned.

Mr. Joseph T. Richards has been appointed Chief Engineer of Maintenance of Way of the Pennsylvania R. R., and Mr. Alexander C. Shand Engineer of Maintenance of Way, both with offices in Philadelphia, Pa.

Mr. Geo. W. Catt, M. Am. Soc. C. E., M. Inst. C. E., President and Engineer of the Atlantic, Gulf & Pacific Co., Inc., engineers and contractors, has been elected President of the Alumni Association of the Iowa State College, of Ames, Ia.

Mr. Theodore W. Hill, Assoc. M. Am. Soc. C. E., has resigned as Assistant Engineer with Riggs & Sherman, engineers, Toledo, O., and accepted a position with F. H. Clement & Co., railroad contractors, with headquarters at Newton Falls, O.

Mr. John Wm. Ash has resigned as Bridge Inspector and General Foreman of Concreting of the New York Central & Hudson River R. R. at Watertown, N. Y., to accept a position as Assistant Engineer with the Southern Ry. at Manassas, Va.

Prof. Nathan C. Grover, of the Department of Civil Engineering of the University of Maine, has resigned. Prof. Grover has for the past year had charge of the hydrographic survey of the State of Maine for the United States Geological Survey.

An expedition, under the direction of Dr. George Shattuck, and including Mr. Barton Bean, Chief of Staff of Marine Zoology, and Mr. J. H. Riley, Chief of Land Zoology, of the United States Museum, and Dr. Oliver F. Fossig, of the Weather Bureau, sailed from Baltimore, Md., on June 1 to make a scientific survey of the Bahama Islands.

Mr. Henry B. Hughes has resigned as Assistant Engineer in the Bureau of Filtration, Department of Public Works of Philadelphia, Pa., to devote his attention to private practice and to represent the Bethlehem Foundry & Machine Co., South Bethlehem, Pa., and the Lehigh Foundry Co., Fullerton, Pa. He will have his office in the Land Title Bldg., Philadelphia.

Mr. R. G. Manning, Assoc. M. Am. Soc. C. E., Engineer at the Toledo plant of the American Bridge Co., was struck by a falling board and painfully injured on May 27 while engaged in superintending some work in connection with the new bridge of the Toledo Ry. & Terminal Co. at Toledo, O. He was struck in the back, the blow fracturing one of the pelvic bones. He will be confined to his bed for several weeks.

OBITUARY.

Mr. Fletcher H. Knight, M. Inst. M. E., for 15 years Manager of the Thomas Iron Works, in Pennsylvania, died in Rochester, N. Y., on May 31, aged 40 years. He engaged in the building of the Easton Street Ry.

Mr. John Kennedy, Jr., former Civil Engineer, died at his home in Tarentum, Pa., on May 25, aged 72 years. He was a civil engineer early in life, but later became a justice of the peace and President of the Tarentum Banking Co.

Mr. Harold C. Grant, of Washington, D. C., and Mr. Melville B. Smith, of Gloucester, Mass., members of the District Civil Engineer Corps, met death while in a manhole of a sewer in Washington on June 2. They were engaged in surveying at the time, and the probability is that they were overcome by sewer gas, and fell into the water and drowned. They were respectively 27 and 22 years of age.

Mr. William Wright, engine builder, died in Brooklyn, N. Y., on May 27, aged 85 years. He started engine building in Palmyra, N. Y., and subsequently moved to Rochester, where he was successful as a builder of rotary engines. He went to the firm of Corliss, Nightingale & Co., as Superintendent and invented a rotating valve. Subsequently he was with the firms of Brown Bros., Waterbury, and Woodruff & Beach, Hartford. About 30 years ago he organized the William Wright Engine Works, at Newburg, N Y.

ENGINEERING SOCIETIES.

COMING MEETINGS.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11. Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

CANADIAN ELECTRICAL ASSOCIATION.
June 10, 11, 12. Annual convention at Toronto, Ont. Secy., C. H. Mortimer, Toronto.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 24, 25, 26. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 29, July 1. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.

AMERICAN SOCIETY FOR TESTING MATERIALS.
July 1, 2, 3. Annual meeting at Delaware Water Gap, N. J. Secy., E. Marburg, University of Pennsylvania, Philadelphia.

AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.
July 17, 18. Annual convention at Niagara Falls, N. Y. Secy., W. M. Mackay, P. O. Box 1,818, New York city.

AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual convention at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Illinois.

NATIONAL ELECTRIC LIGHT ASSOCIATION.—At the annual meeting (reported in the main sheet of this issue) it was decided in executive session to hold the next annual meeting (1904) in Boston instead of in St. Louis as originally arranged.

MEMPHIS ENGINEERING SOCIETY.—The annual meeting of this society will be held on June 9, at the society rooms, 43½ Madison St., Memphis, Tenn. The President of the society, Capt. W. M. Rees, will read the annual address, which will be followed by a social time.—Secy., C. C. Pashby.

HONOLULU ENGINEERING ASSOCIATION.—On May 18 this society held a meeting at the Assembly Hall, corner King and Bethel Sts., Honolulu, Hawaii. The following was the program: Discussion on "Handling of Fuel Oils," paper on "Brakes for Electric Cars," and paper on "The Production of Sugar in the Territory of Hawaii."

ENGINEERING ASSOCIATION OF THE SOUTH.—By invitation of the Birmingham branch, the annual summer convention of the Association will be held at Birmingham, Ala., on June 19 and 20. The full program has not yet been prepared, but it will include professional papers and excursions to technical works.—Secy., R. L. Lund, Nashville, Tenn.

MUNICIPAL ENGINEERS OF NEW YORK.—This society held its second meeting on Wednesday evening, May 27, at the house of the American Society of Mechanical Engineers, 12 W. 31st St., New York city. An illustrated talk on "The Old Roman Aqueduct" was given by Mr. Edward Wegmann, Division Engineer of the Aqueduct Commissioners. A great number of lantern slides was presented showing the remains of the aqueducts around Rome, and in Gaul, Egypt and Asia Minor. The principal feature of the discussion was a description of ancient Peruvian work, especially irrigation ditches, by Mr. O. F. Nichols. After the meeting a luncheon was served. Secy., Wisner Martin, New York.

ENGINEERS' CLUB OF PHILADELPHIA.—The last meeting of the current season is to be held on June 6, when Mr. H. G. Morris will present a paper on "A Consideration of the Gaseous Fuel Problem." At the preceding meeting, that of May 16, Mr. A. L. Baldwin, of the U. S. Coast and Geodetic Survey, presented an illustrated paper on "Recent Rapid Base Line Measures, Precise Leveling and Triangulation." This referred to the work of measuring nine base lines, aggregating 43 miles in length, on the 98th meridian, which was done in a single season. (This same work was described by Mr. J. F. Hayford in Engineering News, Sept. 4, 1902.) The paper also described the new precise level of the Survey, which is claimed to possess advantages over the Y-level for regular leveling. As to the triangulation of the Survey, the author cited a recent instance of exceptionally rapid work: a double party, of 14 men, completed 450 miles of primary triangulation in a total time of less than eight months, the work including the erection of 70 observing towers of an average height of 42 ft.—Secy., J. O. Clarke.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jun. 4	Sewers	Ansonia, O.	May 21
	Advertised, Eng. News, May 21 and 28.		
Jun. 4	Water gates, etc.	Yonkers, N. Y.	May 21
	Advertised, Engineering News, May 21.		
Jun. 4	Bridge	Fort Benton, Mont.	May 21
Jun. 4	Light-house	Baltimore, Md.	May 7
	Advertised, Engineering News, May 7.		
Jun. 4	Building	Scranton, Pa.	Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 4	Building	San Francisco, Cal.	May 14
Jun. 4	Sewer	Boston, Mass.	May 28
Jun. 4	Dredging	Boston, Mass.	May 28
	Advertised, Eng. News, May 28.		
Jun. 5	Stone arches	London, O.	May 28
Jun. 5	Bridge	Covington, Ind.	May 21
Jun. 5	Paving	Traverse City, Mich.	May 28
Jun. 5	Paving	New Brighton, N. Y.	May 28
Jun. 5	Paving	Oswego, N. Y.	Jun. 4
Jun. 5	Steel hull	Grand Rapids, Mich.	May 7
	Advertised, Eng. News, May 7 to June 4.		
Jun. 5	Bridge	Grand Rapids, Mich.	May 21
	Advertised, Engineering News, May 21.		
Jun. 6	Building	Charlestown, S. C.	May 21
Jun. 6	Concrete walks	Fort Mott, N. J.	May 21
Jun. 6	Bridge	Oroville, Cal.	May 21
Jun. 6	Sewer system	Washington, D. C.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
Jun. 6	Electric l't system	Ft. Leavenworth, Kan.	May 14
Jun. 6	Cast-iron pipe	Washington, D. C.	May 14
	Advertised, Eng. News, May 14 to June 4.		
Jun. 6	Sewer	Youngstown, O.	May 28
Jun. 6	Road	Portland, Me.	May 28
Jun. 6	Levee	Covington, Ind.	May 28
Jun. 6	Bridge work	Bryan, O.	May 28
Jun. 6	Bridge work	Wichita, Kan.	May 28
Jun. 6	Iron flagstaffs (12)	St. Louis, Mo.	May 28
Jun. 6	Building	Washington, D. C.	May 28
Jun. 6	Sewer	Wapakoneta, O.	May 28
Jun. 5	Bridge	Chicago, Ill.	Jun. 4
Jun. 6	Water-works extension	Palo Alto, Cal.	Jun. 4
Jun. 6	Engine, dynamo	Hillsboro, N. Dak.	Jun. 4
Jun. 6	Water-works	Freeport, Minn.	Jun. 4
Jun. 6	Sewer	Waco, Tex.	Jun. 4
Jun. 6	Sewer	Wilmington, Del.	Jun. 4
Jun. 6	Sewers	Milwaukee, Wis.	Jun. 4

Jun. 8. Storage reservoir, Bozemont, Mont. ..... May 14
Advertised, Eng. News, May 14 and 21.
Jun. 8. Pumping engine, etc., Lancaster, Pa. ..... May 14
Advertised, Eng. News, May 14 and 21.
Jun. 8. Defense towers, Portland, Ore. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 21-June 4.
Jun. 8. Building, Cleveland, O. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 8. Sewers, Ridgefield Park, N. J. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 8. Macadamizing, Steubenville, O. ..... May 21
Jun. 8. Roads, Albany, N. Y. ..... May 21
Advertised, Eng. News, May 21 to Jun. 4.
Jun. 8. Sewers, Millburn, N. J. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 8. Road (12 miles), Mt. Holly, N. J. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 8. Electric light plant, New Orleans, La. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 8. Storage reservoir, Bozeman, Mont. ..... May 21
Advertised, Engineering News, May 21.
Jun. 8. Pumping plant, etc., Schenectady, N. Y. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 8. Electric light plant, Greene, N. Y. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 8. Building, Prescott, Ariz. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 8. Dynamo, Winnipeg, Man. ..... Jun. 7
Jun. 8. Stand-pipe, Winfield, Kan. ..... Jun. 4
Jun. 8. Alterations, etc., New York, N. Y. ..... Jun. 4
Jun. 9. Building, Agnew, Cal. ..... Jun. 4
Jun. 9. Fire engine boilers, Chicago, Ill. ..... Jun. 4
Jun. 9. Boilers, etc., (W.-W.), New York, N. Y. ..... Jun. 4
Jun. 9. Sewers, Buffalo, N. Y. ..... Jun. 4
Jun. 9. Water tower, Sacramento, Cal. ..... May 28
Jun. 9. Building, Denison, Ia. ..... May 28
Jun. 9. Paving, Binghamton, N. Y. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 9. Building, Cleveland, O. ..... May 28
Jun. 9. Paving, Ashland, Wis. ..... May 21
Jun. 9. Water-works improvement, Ilion, N. Y. ..... May 21
Jun. 9. Alterations, St. Paul, Minn. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 9. Training wall, St. Augustine, Fla. ..... May 14
Advertised, Eng. News, May 14 to June 11.
Jun. 9. Paving, Steubenville, O. ..... May 14
Jun. 10. Bridge, Terre Haute, Ind. ..... May 14
Advertised, Eng. News, May 14 and 21.
Jun 10. Macadamizing, Bowling Green, O. ..... May 14
Jun. 10. Pile dock, New York, N. Y. ..... May 14
Advertised, Eng. News, May 14 to Jun. 11.
Jun. 10. Water-works, Dillon, Mont. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 10. Bridges (2), Rushville, Ind. ..... May 21
Jun. 10. Sewers, Pine Bluff, Ark. ..... May 28
Jun. 10. Sewers, Hoboken, N. J. ..... May 28
Jun. 10. Paving materials, Washington, D. C. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 10. Pump house, pipe, etc., Meadville, Pa. ..... May 28
Advertised, Eng. News, May 28.
Jun. 11. Paving, Newark, N. J. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 10. Water-works improvements, St. Louis, Mo. ..... Jun. 4
Jun. 10. Garbage collection, Terre Haute, Ind. ..... Jun. 4
Jun. 10. Water-works supplies, Camden, N. J. ..... Jun. 4
Jun. 10. Sewer, Grand Rapids, Minn. ..... Jun. 4
Jun. 10. Road, West Boylston, Mass. ..... Jun. 4
Jun. 10. Building, Marquette, Mich. ..... Jun. 4
Jun. 10. Building, Freehold, N. J. ..... Jun. 4
Jun. 11. Water extension, Fort Monroe, Va. ..... Jun. 4
Jun. 11. Building, Indianapolis, Ind. ..... Jun. 4
Jun. 11. Bridge, South Bend, Ind. ..... May 21
Jun. 11. Barges (4), New Orleans, La. ..... May 21
Jun. 11. Building, Paducah, Ky. ..... May 14
Jun. 12. Fireproofing, etc., Augusta, Ga. ..... May 21
Jun. 12. Grading and draining, Wauseon, O. ..... May 21
Jun. 12. Building, Frankfort, Pa. ..... May 21
Jun. 12. Sewer system, Lawrence, Kan. ..... May 21
Jun. 12. Building, New York, N. Y. ..... May 28
Jun. 12. Paving, Bridgeport, Conn. ..... May 28
Advertised, Eng. News, May 28 to June 11.
Jun. 12. Bridges, Belleville, Ont. ..... May 28
Jun. 12. Ammunition hoists (7), Boston, Mass. ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 13. Water-works bonds, Clayton, Ala. ..... May 21
Advertised, Eng. News, May 21 to Jun. 18.
Jun. 13. Paving, Celina, O. ..... May 28
Jun. 13. Bridge, Cincinnati, O. ..... May 28
Jun. 13. Water-works, sewers, etc., Alaska ..... Jun. 4
Jun. 13. Manhole rings, Cleveland, O. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 13. Sidewalks, La Grange, Ill. ..... Jun. 4
Jun. 13. Paving, Brooklyn, N. Y. ..... Jun. 4
Jun. 13. Building, Sauk Center, Minn. ..... Jun. 4
Jun. 15. Water main, North Tonawanda, N. Y. ..... Jun. 4
Jun. 15. Electric light system, Vancouver, B. C. ..... Jun. 4
Jun. 15. Well, Goshen, Ind. ..... Jun. 4
Jun. 15. Bridge, New Philadelphia, O. ..... Jun. 4
Jun. 15. Electric light plant, Ft. Bayard, N. Mex. ..... Jun. 4
Jun. 15. Water pipe, South Deerfield, Mass. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 15. Water-works, Coopersburg, Pa. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 15. Road, Freehold, N. J. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 15. Building, Hamilton, O. ..... Jun. 4
Jun. 15. Building, Fort Meade, S. Dak. ..... Jun. 4
Jun. 15. Paving, Burlington, Ia. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 15. Sewers, Burlington, Ia. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 15. Breakwater, Manila, P. I. ..... Mar. 12
Advertised, Eng. News, Mar. 12 to May 14.
Jun. 15. Railway material (foreign), Siam ..... May 14
Jun. 15. Building, Beaumont, Tex. ..... May 21
Jun. 15. Bridge, Holston, Va. ..... May 28
Jun. 15. Garbage crematory, Shreveport, La. ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 15. Dredging, Norfolk, Va. ..... May 28
Advertised, Eng. News, May 28 and June 4.
Jun. 15. Hydrants, etc., Great Falls, Mont. ..... May 28
Advertised, Eng. News, May 28.
Jun. 15. Road, Neptune, N. J. ..... May 28
Jun. 15. Building, Burlington, Vt. ..... May 28
Advertised, Eng. News, May 28 to June 11.
Jun. 15. Building, Houston, Tex. ..... May 28
Jun. 15. Building, Danville, Ill. ..... May 28
Jun. 15. Building, Dunkerton, Ia. ..... May 28
Jun. 15. Post exchange, Salt Lake City, Utah ..... May 28
Advertised, Engineering News, May 28.
Jun. 16. Building, Two Harbors, Minn. ..... May 28
Advertised, Eng. News, May 28.
Jun. 16. Bridge work, Hillsboro, N. Dak. ..... May 28
Jun. 16. Paving, Rensselaer, N. Y. ..... May 28
Advertised, Engineering News, Jun. 4.
Jun. 16. Building, Alexandria, Va. ..... May 21
Jun. 16. Building, Los Angeles, Cal. ..... May 21
Jun. 16. Electric light plant, Buhl, Minn. ..... Jun. 4
Jun. 16. Building, Freehold, N. J. ..... Jun. 4
Jun. 17. Building, Grand Forks, S. Dak. ..... Jun. 4
Jun. 17. Sewer supplies, New York, N. Y. ..... Jun. 4
Jun. 17. Pier construction, Grand Rapids, Mich. ..... May 21
Advertised, Eng. News, May 21 to Jun. 18.
Jun. 17. Roads, Providence, R. I. ..... Jun. 4
Jun. 18. Building, Boone, Ia. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 18. Street lighting, Portland, Ore. ..... Apr. 23
Jun. 18. Building, Salt Lake City, Utah ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 18. Bridges, Shreveport, La. ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 18. Building repairs, Dayton, O. ..... Jun. 4
Jun. 18. Cast-iron mains, New York, N. Y. ..... Jun. 4
Jun. 18. Sewers, Woodstock, Ont. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 19. Sewage purification, Leavenworth, Kan. ..... Jun. 4
Jun. 20. Water-works, Oakland City, Ind. ..... Jun. 4
Jun. 20. Bridge, Marion, Ind. ..... May 28
Jun. 20. Sewers, Washington, D. C. ..... May 14
Advertised, Eng. News, May 14 to Jun. 11.
Jun. 21. Building, Salem, Ore. ..... May 21
Jun. 22. Breakwater extens'n, New London, Conn. ..... May 28
Advertised, Eng. News, May 28 to June 25.
Jun. 22. Dredging, Baltimore, Md. ..... May 28
Advertised, Eng. News, May 28 to June 25.
Jun. 22. Bridge, Newport, Ky. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 23. Water pipe, England (Foreign Contracts). ..... Jun. 4
Jun. 24. Gallery (building), Washington, D. C. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 24. Sewer, Jersey Shore, Pa. ..... Jun. 4
Advertised, Eng. News, Jun. 4 to 18.
Jun. 24. Extend'g breakwater, Grand Rapids, Mich. ..... May 28
Advertised, Eng. News, May 28 to June 25.
Jun. 24. Light-house supplies, Tompkinsville, N. Y. ..... May 28
Advertised, Eng. News, May 28 to June 25.
Jun. 25. Building, Leadville, Colo. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 25. Bridge, Columbus, O. ..... Jun. 4
Jun. 25. Building, Fort Ethan Allen, Vt. ..... Jun. 4
Advertised, Eng. News, Jun. 4 to 25.
Jun. 26. Light station, Mobile, Ala. ..... May 28
Advertised, Eng. News, May 28 to June 25.
Jun. 26. Paving, Shreveport, La. ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 26. Sewers, Shreveport, La. ..... May 28
Advertised, Eng. News, May 28 to June 18.
Jun. 27. Bridges, Chicago, Ill. ..... Jun. 4
Advertised, Eng. News, Jun. 4 to July 2.
Jun. 27. Bridge, Grand Rapids, Mich. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
Jun. 27. Cast-iron pipe, Erie, Pa. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 27. Laying pipe, Erie, Pa. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
Jun. 30. Dredges, Philadelphia, Pa. ..... May 14
Advertised, May 14, 21, and Jun. 11, 18.
Jun. 30. Railway (foreign), Spain. ..... May 14
Jun. 30. Fencing, Gettysburg, Pa. ..... Apr. 16
Jun. 30. River work, New Orleans, La. ..... May 7
Advertised, Eng. News, May 7, June 18, 25.
Jun. 30. Building, Plainview, Minn. ..... Jun. 4
July 1. Electric lighting, etc., Rangoon, India ..... Feb. 5
July 1. Railway, Argentina (Foreign) ..... Apr. 23
July 1. Building, Carnesville, Ga. ..... May 28
July 1. Bridges (2), Ottawa, O. ..... Jun. 4
July 1. Levee work, West Memphis, Ark. ..... Jun. 4
July 1. Barges, Memphis, Tenn. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
July 1. Building, Boonville, Ind. ..... Jun. 4
July 6. Lighting, Salem, Ore. ..... Jun. 4
July 13. Bridge, Ellendale, Wash. ..... May 28
July 13. Building, La Grange, Ga. ..... May 7
July 15. Coal plant extension, Washington, D.C. ..... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
July 15. Bridge, Burlington, Ia. ..... Jun. 4
Advertised, Engineering News, Jun. 4.
May 2, '04. Railway, South Australia. ..... Feb. 5

RAILWAYS.

(For foreign railways, see under "Mexico," and "Foreign Contracts and Export News.")

ARKANSAS SOUTHERN.—C. H. Sargent, Civil Engr., of Lincoln, Neb., will engage in the survey of this road from Ruston, Ark., to a point 100 miles south in the direction of Alexandria.

BALTIMORE & OHIO.—The double tracking on the C. L. & W. division will begin within a few weeks. A couple of tunnels will be put in to straighten out existing curves. W. L. Deer is Ch. Eng., 21 Cortlandt St., New York.

BELLINGHAM BAY & BRITISH COLUMBIA.—Bids have been called for by J. J. Donovan, Ch. Engr., Whatcom, Wash., for constructing the new Lynden branch from Hampton, on the main line, west to Lynden, a distance of six miles.

BURLINGTON & MISSOURI RIVER.—It is reported that the company will be ready for bids in 10 days (from May 25) for constructing the proposed extension from Ashland to Sioux City, Ia. Nearly all the right of way is secured. I. S. P. Weeks is Ch. Engr., Lincoln, Neb.

BUTTE COUNTY R. R.—J. B. Robinson, Ch. Engr., Chico, Cal., writes that the contract for this road is let to the E. B. & A. L. Stone Co., Oakland, Cal. The location is made and right of way secured. Line will run from Chico to Stirling, 32 miles. About 13 miles is already graded.

CALGARY & EDMONTON.—Company has asked Parliamentary permission to build feeders to its roads; one branch from Lacombe, 75 miles east; another from Wetaskiwan eastward, and a third from Edmonton to Fort Assiniboia. A bill has been passed making it obligatory on the part of the company to build a bridge over the Saskatchewan River, 150 ft. above water level, and costing about $257,000.

CANADIAN PACIFIC.—A branch road is planned from Morrisey to the Montana line, extending along the Flathead River. A charter has already been applied for to the Government.

CANADIAN PACIFIC.—J. W. Leonard, Asst. Gen. Mgr., has stated that the company will at once commence a number of improvements on its western lines; 18 new sidings are to be built between Winnipeg and Regina; new sidings will be put in between Brandon and Kemnay and the central division yards will be extended. J. D. McArthur, contractor, who graded 50 miles of the Yorkton extension last year, has been awarded a contract for another piece of work of equal size. Contractors have started out on the Regina-Ancola extension. The Canadian Construction Co., Montreal, has received the contract for the work between North Bay and Sudbury.

CANTON, ABERDEEN & NASHVILLE.—This line will be extended from Brilliant, Ala., north to Tuscumbia and Sheffield, and thence west, paralleling the Tennessee River to the Mississippi-Alabama State line. The Illinois Central owns the road.

CHICAGO GREAT WESTERN.—This company has purchased the right of way and charter of the Des Moines & Southern Ry. The survey and condemnation proceedings cost the promoters nearly $150,000. It is not known when construction will start, but the road must be completed within 18 months, according to its charter, and to accomplish this work will have to begin immediately. F. W. Cherry was the promoter of the D. S. & S. Ry. A. B. Stickney is Pres. of this company.

CAROLINA, KNOXVILLE & WESTERN.—Reported that this road will possibly be rebuilt by Kreamer Bros., probably of Williamsport, Pa., lumber merchants. This firm, which has some 60,000 acres of timber lands in South Carolina, has purchased the old roadbed. The road is graded and was once operated for 15 miles. The rails were torn up about five years ago.

CHICAGO, BURLINGTON & QUINCY.—An extension from Mexico to Old Monroe, Mo., is talked of. Distance, about 63 miles.

COLCHESTER COAL & RY. CO.—John Flemming, Halifax, N. S., and D. J. Thomas, Truro, N. S., are securing options on the right of way for the line from the company's mine on De Bert Mt., about three miles long. It will connect with the I. C. R.

COLUMBUS, MARSHALL & NORTHWESTERN.—John Seymour, probably of Hudson, Mich., has the contract for building 42 miles of this road between Marshall and Olivet, Mich., and must complete it by Oct. 1.

DENVER, NORTHWESTERN & PACIFIC.—Reports from Denver, Colo., state that bids calling for $5,300,000 worth of work were called for on May 23 on the construction of the road to Salt Lake City, Utah. A tunnel 2¼ miles long through the Continental divide is included. These contracts will probably be placed by June 30. Work is already under way on a portion of this line about 32 miles long. The Colorado-Utah Construction Co. of Denver, Ayl T. Smith, Pres., is building the road. Further contracts will be let this summer for the line in the Grand River Valley. A temporary line will be laid so far as the Fraser River and will be used as a switchback until the main range tunnel is completed.

FLAT TOP R. R.—Chas. E. Hawkes, Pres., Fairmont, W. Va., writes that the permanent survey is now in progress. The line will run from Raleigh into coal fields, and be 17 miles long. Geo. W. Milnes, Clarksburg, is Ch. Engr.

FLOWERS LUMBER CO.—This company, of Jakin, Ga., is preparing to build eight miles of road for logging purposes. The work will be light and will be done by convict labor. Location completed and grading commenced. Arthur Pew is Ch. Engr., Hawkinsville, Ga.

GREAT NORTHERN.—Contract awarded P. Welch, Spokane, Wash., for extending the tracks to the Granby Smelter.

HOULT, FAIRMOUNT & COLFAX.—Contractors have gone over the route of this line and bids will soon be called for. The line will run from Colfax, Va., to Hoult, up Hickman's run.

KANSAS CITY, MEXICO & ORIENT.—Within six or eight weeks 365 miles of this road will be finished and by the end of the year 500 or 600 miles will be in operation. Some 200 miles of surveys have been made, and about 3,000 men and 1,000 teams are now engaged in the construction. M. P. Paret is Ch. Engr., Kansas City, Mo. The length of projected road is 1,600 miles.

LAKE ERIE & DETROIT.—A bill is before the Provincial Parliament of Ontario providing for the building of about 12 miles of railway by this company to enable the ferry connections to be made across the Detroit River near Amherstburg and Sandwich.

MOBILE, JACKSON & KANSAS CITY.—An additional engineering corps has taken the field and will make a final survey for a road from Decatur northward to Jackson, Tenn. H. I. Jones is Ch. Engr., Mobile, Ala.

MORGANTOWN & KINGWOOD.—F. K. Bretz, Gen. Mgr., Morgantown, W. Va., writes that the report that a connection would be built to the Wabash R. R. is premature.

NEW MEXICO & PACIFIC.—As at present planned this line will be 75 miles in length. It will make its way to the Pacific coast through Arizona. About $1,800,000 will be expended during the coming year on construction. Hugh S. Koehler, Thos. B. Harlan and O. H. B. Turner are among those interested.

NEW YORK, CHICAGO & ST. LOUIS.—Company will either elevate three miles of its tracks in Cleveland, O., above grade or depress them, according to the decision of the city government. City Engineer Carter has the plans. E. E. Hart is Engr.

PERE MARQUETTE.—Contract let for building the first section of the Chicago extension, from New Buffalo to Porter, Ind., a distance of 20 miles.

SAN ANTONIO & ARANSAS PASS.—It is stated that the Alice branch of this road will be extended from Alice to Brownsville, Tex., 160 miles. M. D. Monserrate is Gen. Mgr., San Antonio, Tex.

SOUTHERN RY.—Samuel Spencer, Pres., states that this road will be double tracked between Washington and Atlanta and that $25,000,000 will be expended on betterments, including the double trackage. The Washington division will be the first section to get two tracks. The shops and yards at Alexandria, Va., will be enlarged. W. N. Wells is Ch. Engr. of Construction, Washington, D. C. The company will take bids in the near future for work in connection with the proposed yards at North Birmingham, Ala.

SOUTH GEORGIA.—J. W. Oglesby, Pres. and Ch. Engr., Quitman, Ga., writes us that contracts will be let within a few weeks for building the line to Adel, five miles. Surveys are under way.

WESTERN PACIFIC.—Directors have voted to issue $50,000,000 in bonds, out of which the funds for construction will be provided. Six engineering corps are now in the field and are concluding surveys for the road from San Francisco through Beckwith Pass. Actual construction will commence as soon as the surveys and rights of way are secured. W. J. Bartnett, of San Francisco, is attorney for the new company.

NEW INCORPORATIONS AND CHARTERS.

ATLANTA & BIRMINGHAM AIR LINE.—Ala.—A consolidation of the East & West R. R. and the Chattahoochee Terminal Ry.; cap., $1,525,000; company will build from Birmingham to a point near Atlanta, Ga.

MINNESOTA CENTRAL.—N. J.—Will build a railway in Minnesota; cap., $300,000; Wm. S. Lambert, Reading, Pa.; C. H. Mackenzie, Gaylord, Minn., and Hector B. Cady, Minneapolis, are incorporators.

WHITE RIVER & MOUNTAIN HOME.—Ark.—Charter granted; capital, $150,000; will build from Cotter to Mountain Home, 12 miles. C. S. Claybrook, St. Louis, Mo.; S. Wilken, Mountain Home, and S. E. Denton, Gassville, are incorporators.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

STREET AND ELECTRIC RAILWAYS.

(For foreign street railways, see under "Mexico," and "Foreign Contracts and Export News.")

CARIBOU, ME.—A temporary organization of the Caribou, Washburn & Perham R. R. has been effected; capital will be $210,000; line will be an electric and run between points named, some 15 miles; gage, standard. Preliminary surveys have been made and show a level route. S. L. White is Pres.; J. D. Emery, Vice-Pres., and Geo. W. Irving, Treas.

PORTLAND, ME.—F. J. Ilsley, Portland, informs us that a preliminary survey was made during the winter for the Portland Electric R. R., from Cape Cottage to Bowery Beach. No prospect of early construction.

PAWTUCKET, R. I.—The Pawtucket St. Ry. Co. will soon widen its tracks in this city to standard gage and modernize the system throughout.

HARTFORD, CONN.—The legislature has authorized the following: Hartford St. Ry. Co., to extend its lines south from Wethersfield to Rocky Hill; Middletown & Meriden Traction Co., to build from Highland Lake to Meriden; Watertown & Litchfield Tramway Co., franchise to build over several additional routes; extending to July 1, 1905, the time within which the New Milford & Lake Waramaug Tramway Co. may construct its road in Litchfield county; amending the charter of the East Lyme St. Ry. Co., which will result in the construction of a trolley between New London and East Lyme, along the Connecticut shore; authorizing the Winchester Ave. Ry. Co. and the Fair Haven & Westville R. R. Co., of New Haven, to make various extensions, including a loop at the Yale athletic field; empowering the Danbury & Harlem Traction Co. to build additional lines in Danbury and Ridgefield.

SHARON, PA.—Reported that the Eastern Construction Co. of New York, which has the contract for building the Sharon-Middlefield trolley line, will begin work June 3.

PHOENIXVILLE, PA.—R. S. Allebach, of this place, is at the head of a company now forming for the purpose of building an electric line from West Chester to Phoenixville; est. cost, $400,000.

GREENVILLE, S. C.—Preliminary surveys made for the Anderson-Greenville electric line, which is being promoted by Dr. Geo. E. Coughlin, of Indianapolis, Ind. J. E. Sirrine, Greenville, is interested. Company not yet organized. The work of securing right of way will soon commence.

ROME, GA.—Extension of City Electric Ry. Co.'s line to Lindale now assured; $15,000 bonus raised. J. B. Marvin is Mgr.

NEW ORLEANS, LA.—F. F. Myles, New Orleans, writes that the right of way has been secured for the line of the Willby Teche Electric Co., to be about 55¼ miles long. J. N. Hazlehurst, Mobile, Ala., is Ch. Engr.

CLEVELAND, O.—It is stated that the Cleveland City Ry. Co. and the Cleveland Electric Ry. Co. will amalgamate their interests, placing the entire system under one management. The first-named company has a capital of $13,000,000 and 136 miles of track. M. A. Hanna is Pres. The latter has $9,000,000 capital, with 86 miles of track. Horace Andrews is Pres.

HAMILTON, O.—The Interurban Financing & Constructing Co. has organized, with Alfred M. Lamar Pres.; Frank R. Fuller, Secy., and Wm. S. Jones, Gen. Mgr. The company has the contract for building the Eastern Indiana Traction line from this city to Marion, 134 miles. It has two years in which to build the line.

WARREN, O.—The Cleveland & Sharon Traction Co. has filed a mortgage for $2,000,000. It will build a standard gage electric railway from Middlefield, O., to Sharon, Pa.; also an extension from the main line at Kinsman, O., to Meadville, Pa.

BRAZIL, IND.—The Brazil Electric Co., cap. $60,000, organized. Company will build car line to Diamond. It has arranged for an electric light plant.

INDIANAPOLIS, IND.—The Fort Wayne, Logansport, Lafayette & Lima Traction Co. has filed incorporation papers. It is the consolidation of the traction lines in Lafayette, Fort Wayne and Logansport, and represents $7,500,000 in capital. When completed the road will pass through Tippecanoe, White, Carroll, Cass, De Kalb, Noble, La Grange, Steuben, Grant, Adams and Wells counties. Geo. F. McCulloch is Pres.; James Murdock, Vice-Pres., and S. B. Fleming, Secy.

SOUTH BEND, IND.—We are advised that the contract for the line of the St. Joseph Valley Traction Co. will be let in about 60 days. H. E. Bucklin, Chicago, is Pres. Rollin Ellison is interested.

BATTLE CREEK, MICH.—We are informed that work commenced June 1 on the line of the Michigan Central Traction Co., which is to run from Lansing to Grand Lodge, Charlotte, Bellevue and Battle Creek, some 35 miles. A private right of way is secured and a survey made. Contract for 25 miles let to Burwell & Co., New Haven, Conn. The company wishes to let the remainder, 30 miles. Line will be operated by third-rail system. R. Rosenstrok, Cleveland, is Pres. A. J. White, Battle Creek, is a director.

LANSING, MICH.—Grand Rapids Electric Ry. Co. incorporated with $2,000,000 cap. by Jerry Boynton, Grand Rapids, will build a line through Kent, Montcalm, Mecosta, Isabella and other counties to a point on Lake Huron, with a branch line to Lansing.——Articles filed by the Huron & Michigan Ry. Co., Grand Rapids; cap., $2,300,000; will build line from Grand Rapids to Saginaw. Samuel D. Prosser, Detroit, is chiefly interested.

SPRINGFIELD, ILL.—Articles of incorporation filed by the following: Decatur, Springfield & St. Louis Ry. Co., $50,000 cap., to build an electric road from Decatur by way of Springfield and Carlinville to East St. Louis. Company is financed by Montreal and Boston capitalists and by a Montreal insurance company; Springfield & Jacksonville Rapid Transit Co., cap. $500,000; will build a line between points named. Edwin H. Conrades, St. Louis; L. H. Coleman, Springfield; E. C. Greenleaf, East St. Louis, and M. W. Brown, New Berlin, are incorporators.

LA CROSSE, WIS.—Progress on securing the right of way for the La Crosse & Black River Falls Ry. to La Crosse is blocked by farmers holding out for exorbitant prices. A good part of this work is completed.

SIOUX CITY, IA.—L. F. Wakefield, Ch. Engr. Omaha, Decatur & Northern Ry., Sioux City, writes that no contracts are let as yet for the company's 65 miles of electric road and no date is set for making the awards. The first 18 miles between Decatur and Tekamah is surveyed and 75% of the right of way obtained. The line will run from Omaha to Decatur. P. D. Gordon, Decatur, Neb., is Pres.

BOZEMAN, MONT.—The Gallatin Light, Power & Ry. Co. and the Bozeman St. Ry. Co. have been purchased by the Bozeman Light & Traction Co. The new owners will make a complete renovation of the electrical and mechanical equipments of the present plant.

ST. LOUIS, MO.—H. D. Brandt, 908 Wainwright Bldg., St. Louis, writes that clearing and grading on the St. Louis, Hillsboro & Southern Ry. in Jefferson county is under way; all right of way secured and capital arranged for. Line will be 40 miles long. T. F. Sneed is Pres., St. Louis; T. Bennet, Old Orchard, is Ch. Engr.

ALBUQUERQUE, N. M.—Council will grant a franchise for an electric street railway to O. E. Cromwell, of this city. If franchise is satisfactory work will begin at once on the system.

EVERETT, WASH.—The Everett Improvement Co. will build a trolley line to Snohomish, cost, about $200,000. Construction work will begin as soon as arrangements can be made.

WHATCOM, WASH.—Application made by the Whatcom County Ry. & Light Co. for a branch line through York.

MARSHFIELD, ORE.—L. J. Simpson is projecting an electric car line for Marshfield. He will soon apply for franchise.

FRESNO, CAL.—It is intended to improve the city service by the Fresno City Ry. and to electricize the old line. A. G. Wilson is Supt.

LOS ANGELES, CAL.—It is estimated that the construction of the Pacific Electric Ry. and its allied projects will require an expenditure of some $50,000,000. H. E. Huntington is the chief promoter.

OAKLAND, CAL.—The Oakland Transit Co. has asked for franchises covering various extensions in this city.

SANTA BARBARA, CAL.—The Edison Electric Co. Los Angeles, which has absorbed the United Electric Gas & Power Co., states that the trolley line to Monticito would probably be built in the near future.

SAN JOSE, CAL.—James M. Rea, Pres. San Jose & Los Gatos Interurban Ry., contemplates building an electric road to Los Gatos.

SUPAI, ARIZ.—J. B. Girard, Chf. Engr., United Gold & Platinum Mines Co., Supai, writes us that the company intends to install a power plant to operate a line of railway 50 miles long and he desires correspondence with manufacturers of power machinery, etc.

PRESCOTT, ARIZ.—F. L. Wright has been granted a franchise by this city for an electric street railway. Work begins at once. The name of the road is the Prescott & Mt. Union R. R.

PROVO, UTAH.—Reed Smoot informs us that the incorporation of a company to build the electric line running from Santaquin, in the south end of Utah County, to Lehi, in the north end, will take place as soon as the franchises and rights of way are secured. The rights of way are now being secured.

KOOSKIA, IDAHO.—The contract for the farmers tramway, from here to the top of the hill west of the town, has been let to the Lescuem Wire Rope Co. of St. Louis, Mo., for $11,400.

LIGHT, HEAT AND POWER PLANTS

(For foreign light, heat and power plants, see under "Mexico," and "Foreign Contracts and Export News.")

MANSFIELD, MASS.—Town votes for electric plant.

BUFFALO, N. Y.—Council has refused bid of Buffalo Gas Co., of $14 a year per lamp and will recommend establishment of municipal plant.

VALATIE, N. Y.—Surveys are being made for damming Kinderhook Creek for electric development.

EAST GREENVILLE, PA.—This place and Red Hill and Pennsburg will probably have electric lights.

PEACH BOTTOM, PA.—Plans for water power plant at Peach Bottom Rapids on Susquehanna River are being made by James R. Harlow & Co., Commercial Trust Bldg., Baltimore, Md.

WAYNE, PA.—The Wayne Electric Light Co., Broad and Arch Sts., Philadelphia, Pa., will soon commence work on an addition to their plant.

WILMINGTON, DEL.—George Wharton Pepper, Philadelphia, has been appointed receiver for the Bay State Gas Co., of Delaware.

WASHINGTON, D. C.—The Indian Department has rejected bids for constructing power house, etc., at the Shoshone Indian Agency.

MARTINSVILLE, VA.—Smith River Light & Power Co., Pannil Rucker, Pres., will erect dam and develop about 800 HP., terms of contract having been agreed upon by the town.

RICHMOND, VA.—The Cohen Co. and other Broad St. merchants have asked franchise for an electric light plant.

WINDER, GA.—City will have $15,000 electric plant.

RUSSELLVILLE, ALA.—Private electric plant talked of.

RUSTON, LA.—Reported that contracts for improving electric light and water-works plants will be let about June 10. B. F. Thompson is Mayor.

CHATTANOOGA, TENN.—Stated that should the local railway and electric lighting plant be combined, $1,000,000 might be spent in improvements. Samuel W. Divine is Mgr. Rapid Transit Co.

GLADSTONE, KY.—R. D. Weitzell, Mgr. Gladstone Coal & Coke Co., writes us that they contemplate establishing electric power plant for mining and hauling coal, driving ventilating fans and perhaps lighting offices and part of the mines.

TOLEDO, O.—Reports state that J. F. Davis, Spitzer Bldg., Toledo, has a project for establishing electric light and heating plants in each block of the business districts. These plants would furnish light and heat only to those buildings in that block.

GIRARD, O.—F. H. Shelton, Cons. Engr., Fidelity Bldg., Philadelphia, Pa., will, it is said, at once make plans for a $1,000,000 gas plant to be erected near here, to supply Youngstown, Warren, Niles, Girard and Struthers. Plant is to have capacity of 2,000,000 cu. ft. per day. This item was mentioned last week under Youngstown, O.

FAIRMOUNT, IND.—$5,000 has been raised toward village plant.

NOBLESVILLE, IND.—Plans and estimates for proposed power house to be erected above Potter's Bridge have been received by Thomas Griffin. A dam will be constructed and two dynamos and three turbine wheels put in; estimated cost, $80,000.

TERRE HAUTE, IND.—Franchise in city south of Main St. has been granted to Citizens' Mutual Heating Co.

BRAZIL, IND.—Brazil Electric Co., Secy., H. D. Falls, has bought plant of Ball Electric Co. and its ten-year franchise. They also secured a franchise for a 12-mile street car line.

KEMPTON, IND.—New electric plant to be put in.

HANCOCK, MICH.—W. W. Mercer and H. T. Ingersoll have applied for gas works franchise here.

LAKE LINDEN, MICH.—Contract for lighting streets and pumping water let to Houghton County Electric Light & Power Co., who will probably erect gas plant outside village limits.

GALESBURG, ILL.—Franchise granted to McKinley syndicate, owners of local street car system, for a central heating plant. It is stated that $1,500,000 will be spent on this and other enterprises of the company.

ATLANTIC, IA.—City water-works and lighting plants to be joined at cost of $12,000.

WELLSBURG, IA.—W. E. Reed is considering putting in electric light plant.

BUHL, MINN.—Bids are asked until June 16 for constructing electric light plant; work consists of wiring, pole line, dynamo, steam plant and accessories. Oscar Claussen, Engr., 314 German-American Bank Bldg., St. Paul Minn.; M. A. Nichols, Village Recorder.

HILLSBORO, N. DAK.—Bids are asked until June 6 for plain or compound steam engine, boiler and dynamo for electric light plant. D. Cameron, City Auditor.

BEAUMONT, TEX.—Electric light franchise granted to Hal. W. Greer.

CLEBURNE, TEX.—Stated that C. D. Oliger and associates will build $50,000 gas works here.

MINERAL WELLS, TEX.—Independent Telephone Co. granted 25-year franchise for electric plant.

BOULDER, COLO.—Boulder Gas Co. will lay about seven miles of gas mains.

FORT BAYARD, N. M.—Bids are asked until June 15 for electric light plant and wiring. Capt. H. M. Powell, Q. M.

SPOKANE, WASH.—A company, J. C. Odell, Pres., will furnish electric light to Newport, Wash.

SPOKANE, WASH.—Coeur d'Alene & Spokane Electric Ry. wishes to purchase 1,000 HP. daily from city's pumping plant and agrees to erect power house capable of developing the required power.

WALLA WALLA, WASH.—Stated that interest of Walla Walla Gas & Electric Light Co. will probably be sold to Eastern parties, who will develop them and furnish Walla Walla Valley with light and power.

BROWNSVILLE, ORE.—A. B. Kurtz, Silverton, Ore., considers putting in electric lighting plant here.

EUGENE, ORE.—Union Iron Works, San Francisco, Cal., has contract for 1,000-HP. electric power plant on McKenzie River for the Lucky Boy mines.

SALEM, ORE.—Bids are asked by the board of public buildings until July 6 for lighting capitol building, insane asylum, penitentiary and Blaine school with arc and incandescent lamps.

NEVADA CITY, CAL.—G. M. Broyles, French Corral, is said to be interested in the erection of a 25,000-HP. plant near Smartsville.

BIGGS, CAL.—City lighting proposed.

SAN LUIS OBISPO, CAL.—The San Luis Gas & Electric Co. is to put in new gas plant on Presino St., and at the same time will erect an electric light and power plant.

STOCKTON, CAL.—American River Electric Co. has asked franchise to extend its electric line to the city.

SUPAI, ARIZ.—The United Gold & Platinum Mines Co. is about to install a power plant and J. B. Girard, Ch. Engr., wishes correspondence with manufacturers of power machinery, etc.

OROFINO, IDAHO.—F. M. Mitchell, Grangeville, Idaho, will install electric light plant and water-works.

SAND POINT, IDAHO.—We are informed that bids will be opened about Sept. 1 for proposed plant of Sand Point Electric Co. The plant is to be operated by steam and is to cost about $7,500. They will want one 100-KW three-phase generator, a 125-HP. engine, boilers, etc. M. R. Rutherford, Missoula, Mont., is official in charge.

WHITBY, ONT.—Joseph White, Town Clk., writes us that they are not yet decided on purchase of electric plant or installation of water-works.

KILLARNEY, MAN.—Contract for machinery for Killarney Electric Light & Power Co. has been let to Ernest S. Harris Co.

MONTREAL, QUE.—Hugh L. Cooper, Cons. Engr., Montreal Light, Heat & Power Co., has made plans for a dam at Chambly for that company.

VANCOUVER, B. C.—The North Vancouver council is calling for bids until June 15 for an electric light system.

FENELON FALLS, ONT.—Village will acquire water power and will erect electric light plant.

WINNIPEG, MAN.—Bids are asked until June 8 for one 100-light d.-c. arc dynamo, 50 d.-c., enclosed arc lamps with globes, 42 lamp hangers and five miles No. 6 B. & S. wire. C. J. Brown, Cy. Clk.

BONDS.—Lake City, Fla., votes June 15 on issue of $35,000 of bonds, $12,000 of which are for electric light purposes.——Fenelon Falls, Ont., votes to raise $75,000 of bonds for power purposes.——Biggs, Cal., proposes to issue bonds for electric lights.——Winder, Ga., will issue $15,000 bonds for electric light plant.——Big Stone Gap, Va., votes June 9 on $20,000 bond issue for general improvements, including electric light.——Harrodsburg, Ky., by C. D. Thompson, will receive bids until June 27, for $18,000 electric light plant bonds.——Mansfield, Mass., votes to issue $40,000 of bonds for constructing electric light plant.——Springfield, Tenn., will issue $35,000 of bonds for putting in water-works and electric light plant.——Louisville, Ga., will issue $20,000 electric light and water bonds.

NEW COMPANIES.—Humboldt Power Co., San Francisco, Cal.; $500,000; Chas. P. Doe, Eugene Woodin, James Stanley.——Northwest Lighting & Power Co., Spokane, Wash.; $1,200,000; Isaac W. Anderson; company intends to build plant on the Walla Walla River; has also secured options on the plant of the Walla Walla Gas & Electric Co., and the gas plant at Pendleton.——Alamogordo St. Ry. & Land Co., Alamogordo, N. M.; to operate electric power plant and a line of street railway. R. H. Pierce, A. P. Jackson.——Wisconsin Power Co., Menomonie, Wis.; $250,000; John H. Coulter, L. E. Gary, Chicago, Ill.——Home Electric Light & Power Co., Greeley, Colo.; $4,500; Jas. H. Hayes, Frank L. Abbott, Benjamin Stephens.——Glenville Power & Water Co., Greenwich, Conn.; $10,000,000; Wm. J. Tingue, Nathaniel Wetherell, H. H. Adams. Company seeks a franchise to furnish electricity and water to Greenwich, Conn., and Rye, Harrison and Mamaroneck, N. Y.

BRIDGES

(For foreign bridge work, see under "Mexico," and "Foreign Contracts and Export News.")

BANGOR, ME.—P. H. Coombs, Cy. Engr., writes us that building of proposed bridge at Water St., over Kenduskeag River, has been postponed by action of city council.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

SKOWHEGAN, ME.—Contract for steel bridge over north channel of Kennebec River let to American Bridge Co., New York, N. Y., for $15,750.

SALEM, MASS.—Proposed bridge over Bass River, between this city and Salem will cost $100,000, 60% of which cost will be paid by the county.——Plans are also being laid for a bridge over North River, from Marsh St.

TAUNTON, MASS.—Aldermen have voted $23,000 for erection of bridge at The Weir. Luther Dean is Cy. Engr.

BRISTOL, CONN.—Bristol & Plainville Tramway Co. will erect bridge over river at Main St., to cost $4,500.

ALBANY, N. Y.—Reports state that the Greenbush bridge has been damaged by fire to the extent of several thousand dollars.

BUFFALO, N. Y.—Commissioner of public works has been directed to enter into contracts for the following bridge work: Substructure, viaduct over Erie tracks, Frank J. Reap, $63,587; superstructure, American Bridge Co., $88,667; substructure, viaduct over Lake Shore tracks, Frank J. Reap, $122,162; superstructure, American Bridge Co., $69,049.

CANASTOTA, N. Y.—State appropriates $10,000 for bridge over Canastota Creek at Chapel St.

CORNING, N. Y.—Contract for structure of Gibson bridge let to Owego Bridge Co., Owego, N. Y., for $30,000.

NEW YORK, N. Y.—The following bids were received for furnishing steel under floor and for creo-resinate wood paving for Williamsburg bridge: Pennsylvania Steel Co., $271,560; John Kenny, Jr., $212,000; R. H. Hood & Co., $168,746. Paving—U. S. Wood Preserving Co., $31,989; Eppinger & Russell Co., $34,210; R. H. Hood & Co., $48,350.

ROCHESTER, N. Y.—Stated that New York Central & Hudson River R. R. will construct iron bridges at Oak, Kent and Smith Sts., at a cost of $20,000.

TONAWANDA, N. Y.—State will probably build bridge over Erie Canal at Seymour St., to cost not more than $17,000.

LODI, N. J.—County freeholders have been asked to build $10,000 bridge over Saddle River.

GETTYSBURG, PA.—Contract for three iron county bridges let to Nelson & Buchanan Bridge Co., Chambersburg, Pa., for $1,824.

KUTZTOWN, PA.—Contract for superstructure Dietrich's Mill bridge let to W. F. Remppis & Co. for $1,342; masonry work let to Kase & Frank.

LEWISBURG, PA.—Cost of proposed bridge over river at this place has been estimated at $200,000. Union and Northumberland counties are interested in its construction.

CUMBERLAND, MD.—$10,000 county bridge over Potomac River may be erected.

WHEELING, W. VA.—Stated that Wheeling Traction Co., J. J. Holloway, Vice-Pres., will soon let contracts for bridges over Black River, from Kirkwood on North Island.

ATLANTA, GA.—Bridge committee has asked for $15,000 for building brick and stone foundation for bridge on Edgewood Ave., over Southern Ry. track; $25,000 was also asked for equipping Peters St. viaduct with steel buckle plates and paving it with asphalt.

JACKSONVILLE, FLA.—Contract for building Bridge St. viaduct let to Shirler & McCormick, Boston, Mass., for $165,000.

BIRMINGHAM, ALA.—Contract for three steel bridges was let to Southern Bridge Co., Avondale, Ala., for $4,320. The contract for masonry work was also let to the above firm.

NEWPORT, KY.—Bids are asked until June 22 for 130 ft. steel bridge, with 60-ft. approach span. W. J. Hissem, County Judge. (See advertising columns.)

COLUMBUS, O.—Bids are asked until June 25 for complete construction of two bridges on Cleveland Ave., over the railroad tracks. L. E. Jones, County Auditor.

NEW PHILADELPHIA, O.—Bids are asked until June 15 for constructing bridge superstructure at Zoar Station. Bridge is to be 262 ft. long, with a 14-ft. roadway. C. C. Frensell, County Auditor.

OTTAWA, O.—Stated that bids are asked until July 1 for constructing following iron or steel bridges: Glandorf bridge, 167 ft. long, 16 ft. roadway; Gipsy Lane bridge, 232 ft. long, 16 ft. roadway. D. F. Owens, Chn. County Comrs.

BATESVILLE, IND.—Reported that John Hillenbrand has contract from Big Four for building the necessary trestle in making fills on new line between Sunman and Guilford. Contract price said to be $75,000.

WASHINGTON, IND.—Surveys are under way for proposed bridge of Southern Indiana Railway Co., over White River, at this point.

WINCHESTER, IND.—Contract for nine county bridges was let to Indiana Bridge Co. for $9,716. The same company secured the contract for the concrete abutments for $4,795.

ANN ARBOR, MICH.—Council has taken preliminary steps toward building new bridge at Forest Ave.

GRAND RAPIDS, MICH.—Bids are reported asked until June 5 for completion of piers and abutments of bridge over Grand River at Wealthy Ave., the contractor to whom this work was previously let having been released from his contract. L. W. Anderson, Cy. Engr.; J. C. Brown, Cy. Clk.

GRAND RAPIDS, MICH.—Bids are asked until June 27 for constructing 600-ft. steel bridge, 20-ft. roadway, over Grand River at North Park. L. W. Anderson, Engr.; P. C. Campbell, Chn. Road and Bridge Comrs. (See advertising columns.)

CARLYLE, ILL.—Town votes $7,000 for repairing and rebuilding township bridges.

CHICAGO, ILL.—Bids are asked until June 27 for erecting four riveted steel highway bridges. Maj. J. H. Willard, U. S. Engrs. (See advertising columns.)

CHICAGO, ILL.—Bids are asked until June 5 for superstructure of Northwestern Ave. bridge over north branch Chicago River, including machinery, locks, etc. F. W. Blocki, Comr. Pub. Wks.

DANVILLE, ILL.—$20,000 has been provided for constructing bridge over Vermillion River at College St. M. B. Bailey is Mayor.

MARTINTON, ILL.—Ashkun and this place have voted on building $11,000 bridge over Iroquois River at Rivards Ferry.

MOLINE, ILL.—Contract for steel bridge over Rock River, connecting Rock Island and Whiteside counties, has been let to St. Louis Bridge & Iron Co. for $20,899.

MORRIS, ILL.—Contract for bridge over Kankakee River, near Lorenzo, has been let as follows: Stone abutments, Keltie Stone Co., Joliet, Ill., $14,350; superstructure, Joliet Bridge & Iron Co., Joliet, Ill., $26,650.

PEKIN, ILL.—Bids for proposed bridge between Mackinaw and Little Mackinaw, the lowest of which was $6,300, have been rejected. Bids for Little Mackinaw bridge were also rejected.

MILWAUKEE, WIS.—Officials of Milwaukee Railroad have stated that steps are to be taken at once toward constructing new concrete and steel bridge over Milwaukee River. Estimated cost is $100,000.

BURLINGTON, IA.—Bids are asked until June 15 for constructing 6th St. viaduct superstructure, connecting of two 30-ft. and a 40-ft. span. Emmet Steece, Cy. Engr. (See our advertising columns.)

DULUTH, MINN.—Council is to call for bids for constructing bridge over the ship canal to Ferry Point.

KANSAS CITY, KAN.—Reports from here state that 17 bridges connecting this city and suburbs have been washed out by the recent flood.

KIOWA, KAN.—Contract for bridge over Bluff Creek, on State line, let to Wichita Bridge Co., Wichita, Kan., for $2,400.

TOPEKA, KAN.—Six bridges over the Kansas River, near here, are stated to have collapsed on account of high water.

OMAHA, NEB.—All bids were rejected by park commissioners for proposed viaduct over Central Boulevard at 34th St. Bids ranged from $11,500 to $14,000, which was nearly double the estimate.

TAYLOR, TEX.—Contract for building four iron bridges in Williamson county, to cost about $18,000, has been let to G. C. Horton, Austin, Tex.

PORTLAND, ORE.—Stated that $40,000 bridge is to be built over Marquain Gulch at First St.

MODESTO, CAL.—County surveyor has made plans and specifications for bridge over Little John Creek.

SAN DIEGO, CAL.—G. A. d'Hemecourt, Cy. Engr., writes us that the proposed "B" St. bridges are designed to be of wood, the estimated cost is $5,000, and bids are likely to be asked about July 1.

SAN JOSE, CAL.—County supervisors rejected all bids received for construction of steel bridge over Coyote River on Berryessa Road. The lowest bid offered was $8,897.

WEISER, IDAHO.—Reported that county commissioners have let contract for $112,000 bridge near here to James C. Graham, Spokane, Wash.

ST. JOHN, N. B.—Building of bridge over the Harbor is under consideration.

MONTREAL, QUE.—Reported that bridge over river at Ste. Rose has been damaged by fire to extent of $3,000.

OTTAWA, ONT.—Pere Marquette International Bridge Co. is seeking incorporation with $500,000 capital to build a bridge over Detroit River, near Amherstburg.

BUILDINGS.

(For foreign building operations, see under "Mexico," and "Foreign Contracts and Export News.")

FORT ETHAN ALLEN, VT.—Bids are asked until June 25 for constructing, heating, wiring, etc., two double sets Captains' quarters, three sets Lieutenants' quarters, two sets field officers' quarters and two double cavalry barracks, etc., as stated in our advertising columns. Capt. T. B. Lamoreux, Q. M.

BOSTON, MASS.—The Real Estate Trust will alter building at Hanover and Portland Sts. Cost, $60,000.——H. B. Williams will erect a 4-story apartment house, 100 × 125 ft., on north side of Westland Ave.

BOSTON, MASS.—The following bids were received by the Bureau of Yards and Docks, Navy Dept., on May 29, for supplying six electric elevators for buildings 42, 103 and 107, Navy Yard, Boston. (1) figures for each of elevators Nos. 1 to 6; (2) lump sum for elevators 1 to 6: Chas. F. Curwen, Salem, Mass., (1) $3,465, $3,930, $4,270, $3,225, $3,225, $3,660; (2) $21,805; Elektrom Mfg. Co., Springfield, Mass., (1) $2,807, $3,333, $3,634, $2,569, $2,569, $2,715; Whittier Machine Co., Boston, Mass., (1) $3,430, $5,835, $6,650, $3,440, $3,440, $3,630; (2) $26,428; Marine Engine & Machine Co., New York, (1) $3,470, $6,250, $5,810, $3,530, $3,515, $3,465; (2) $26,040; Otis Elevator Co., New York, (1) $3,470, $5,900, $6,744, $3,480, $3,480, $3,670; (2) $26,755; Baltimore Machine & Elevator Works, Baltimore, Md., (1) $3,484, $5,362, $6,055, $3,420, $3,320, $3,793; (2) $25,390.

BOSTON, MASS.—C. E. Cassell, Arch., Law Bldg., Baltimore, Md., is preparing plans for J. A. Whitcomb's 6-story brick, stone and steel office building, 40 × 110 ft., at 245-47 Washington St.

BROOKLYN, N. Y.—New municipal building site being considered.

BUFFALO, N. Y.—The Keystone Warehouse Co., Fidelity Trust Bldg., will soon award contract for new 6-story brick, slow burning warehouse, 140 × 228 ft.

GLOVERSVILLE, N. Y.—A. L. Peck writes us that competition for plans for the new library building will close June 15.

NEW YORK, N. Y.—Plans have been filed by Bernstein & Bernstein, Archs., 7 Trinity Pl., for 6-story brick tenement, 58 × 86 ft., at 11-13 Rivington St., for I. Lippman; owner receiving bids; $45 000; by Bernstein & Bernstein, Archs., for 6-story brick tenement with store, 50 × 68 ft., for A. Goodman, 1439 Madison Ave.; $45,000; owner receiving bids; by L. F. Weiher, Arch., 103 East 125th St., for 5-story brick tenement, 50 × 87 ft., at 152 2d St., for W. M. Janpole, 206 Broadway; $55,000; by C. Volz, Arch., 100 Fifth Ave., for 6-story brick offices, with store, 25 × 96 ft., at 81 Nassau St., for W. Edgar estate, 31 Nassau St., $40,000; for 5-story residence, 45 × 91 ft., at Fifth Ave. and 92d St., for I. T. Burden; $300,000; by D. H. Burnham & Co., Archs., 770 Broadway, for 14-story store, 188 × 339 ft., at Fourth Ave. and Eighth and Ninth Sts., for J. Wanamaker, Philadelphia, Pa., $3,100,000; by M. R. D'Amora, Arch., 787 East 171st St., for 6-story brick flat, 75 × 62 ft., at 2424 Seventh Ave., for M. Pizzutiello, 787 East 171st St., $75,000; by Sass & Smallhuser, Archs., 23 Park Row, for 6-story brick flat, 25 × 80 ft., at 230 Clinton St., for Pachtman & Levin, 216 Stockton St., Brooklyn, $30,000; by Moore & Landsiedel, Archs., 148th St. and Third Ave., for 6-story brick flat, 40 × 87 ft., at 115th St., for A. Reis, 211 East 112th St., $45,000.

NEW YORK, N. Y.—Bids are asked by board of education, Park Ave., and 59th St., until June 8 for altering, erecting additions and installing heating and ventilating apparatus in various schools. C. B. J. Snyder, Supt.

NEW YORK, N. Y.—A stock company may be formed to build the New York Central Ry. Co.'s terminal station.——Plans have been completed for Browning, King & Co.'s 8-story fireproof building opposite the Imperial Hotel, Broadway.——The two brownstone residences at Fifth Ave. and 38th St. and adjoining stable will be converted into a 5-story office building, 60 × 175 ft., for H. A. Siebrecht. Cost, $75,000.——The state will spend $1,200,000 for new hospitals and armories.——A site has been purchased at Eighth Ave. and 111th St., upon which will be erected a building 70 ft. high, 200 × 250 ft., to introduce the Spanish game of pelota.

STAPLETON, N. Y.—The B. R. Smith Infirmary will be enlarged. Cost. $100,000. W. G. Willcox is Member of Bldg. Fund Com.

UTICA, N. Y.—Working plans are being prepared by Ward & Turner and O. W. Cutter, associate architects, Boston, for new county building. It will be 130 × 180 ft., steel construction and fireproof.

WEST POINT, N. Y.—The successful architects for preparing plans for the proposed improvement are Cram, Goodhue & Ferguson, Boston, Mass. There will be provided for in the present plans 21 new buildings, a new architectural layout of the entire reservation and an elaborate landscape setting, the latter being arranged by Olmstead Bros., Brookline, who are associated with the successful building architects. A new athletic field, with a natural amphitheatre seating 6,000 people, is a possibility in connection with the improvements. The old cadet barracks, academic building, library, cadet mess, cadet hospital, gymnasium, memorial hall and officers' mess will be retained.

BAYONNE, N. J.—Bids are asked by board of education until June 16 for constructing school building No. 8 on Ave. C. R. Sailer, Arch., 76 Montgomery St., Jersey City. R. T. Hewitt, Secy.

CAMDEN, N. J.—The Keystone Leather Co. is having plans prepared for a new 4-story brick warehouse, 60 × 100 ft.; also for additions to factory buildings.

FREEHOLD, N. J.—Bids are asked until June 10 for erecting a court house. John Guire, Dir. Bd. Freeholders.

JERSEY CITY, N. J.—Reports state that a 20-story office building will be erected on Exchange Place by the Commercial Trust Co. Cost, $1,000,000.

PRINCETON, N. J.—E. E. Paul, 289 Fourth Ave., New York, received contract for erecting Princeton University's 2-story brick and stone dormitory building, 36 × 280 ft., at $125,000.

TRENTON, N. J.—The J. L. Mott Iron Works Co., 88 Beekman St., New York, have plans in preparation for 4-story brick and steel warehouse, 50 × 320 ft.

PHILADELPHIA, PA.—The Art Club will be enlarged at cost of between $80,000 and $100,000.

PHILADELPHIA, PA.—Davis & Partners, Archs., 29 Broad St., New York, are preparing plans for the Atlantic Refining Co.'s 4-story fire-proof brick and steel office building, 60 × 120 ft., at Point Breeze.

POTTSVILLE, PA.—Jas. Nagle & Son, 506 Hamilton St., Allentown, received contract for the new 2-story stone M. E. church, 156 × 77 ft., at $75,000.

SCRANTON, PA.—P. Stipp received contract for erecting 1-story brick and stone Presbyterian church, 97 × 100 ft., at $125,000. L. E. Holden, Arch., 1135 Broadway, New York.

SOMERSET, PA.—New court house being discussed. J. M. Wood is interested.

WASHINGTON, D. C.—$150,000 of the $300,000 has been subscribed for enlarging the present Y. M. C. A. building. John D. Rockefeller has offered $50,000 on condition that the remaining $100,000 is subscribed before Jan. 1.

WASHINGTON, D. C.—Hill & Kendall, Archs., Corcoran Bldg., are preparing plans for H. A. Willard's 8-story brick, stone and steel fireproof hotel, 1411 Pennsylvania Ave. Steam heating and electric plants to be installed.——Bruce, Price & J. H. De Sibour, Archs., 1135 Broadway, New York, are preparing plans for Thos. Gaff's 4-story brick and stone fireproof residence at 20th and Q Sts. Cost, $100,000.

WASHINGTON, D. C.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until June 24 for constructing gallery and cases for plates and dies at Bureau of Engraving and Printing. (See advertising columns.)

PORTSMOUTH, VA.—The site for the new public building is being discussed.

RICHMOND, VA.—Nolan & Baskerville, Archs., are preparing plans for the 1-story stone Beth Ahaba synagogue. Cost, $80,000.——Wilthrow & Jones, Charleston, W. Va., received contract for erecting Mrs. A. S. Atkinson's 7-story fireproof brick, stone and steel hotel, at $200,000. H. Albright, Arch., Charleston, W. Va.

WHEELING, W. VA.—A new hose house and jail will be erected.

WINSTON-SALEM, N. C.—The Southern Ry. Co.'s new passenger station will be of white pressed brick.

DANBURY, N. C.—The design of Wilkesboro's court house will probably be adopted for the new court house at this place. J. S. Taylor is interested.

MORGANTON, N. C.—Court house will be remodeled. F. P. Milburn, Arch., Columbia, S. C.

RALEIGH, N. C.—F. P. Milburn, Columbia, S. C., will prepare plans and specifications for additions and alterations to state capitol building. Cost, $300,000.

CHARLESTON, S. C.—Bids will soon be asked for constructing the art institute on Marting St. F. P. Milburn, Arch., Columbia.

CHARLESTON, S. C.—The Clark Const. Co., 2 Sherman St., Chicago, Ill., received contract for erecting 3-story brick and steel fireproof equipment building at the navy yard, at $123,575.

ATHENS, GA.—Postmaster Fleming has received advanced drawings for new government building.

MONROE, GA.—W. F. Camp, Campton, is having plans prepared for a brick warehouse.

OZARK, GA.—Plans have been submitted for the National Bank's new 4-story building. Cost, $100,000.

JACKSONVILLE, FLA.—The government building will be remodeled. Electric elevator substituted for steam.——The plans of Architect Klutho have been accepted for the new $50,000 Carnegie Library. Indiana limestone will probably be used.

BIRMINGHAM, ALA.—Bids are being received for erecting the First Christian Church building. D. A. Helmich, Arch., Third Ave. and 21st St.

DOTHAN, ALA.—A. J. Bryant & Co., Archs., New Orleans, La., write us that plans have been accepted for $60,000 court house and $20,000 jail.

NEW IBERIA, LA.—H. D. Wilcox writes us that the high school building will be of brick, two stories, and cost $50,000.

NEW ORLEANS, LA.—The 12-story brick annex to the St. Charles Hotel will be fireproof and cost $300,000. The Hibernia Banking & Trust Co.'s 12-story brick and steel fireproof building will cost $430,000. The Remington Const. Co. has both contracts.

MEMPHIS, TENN.—The Thompson Starritt Co., New York, recived contract for erecting 10-story fireproof hotel at $600,000.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CLEVELAND, O.—Bids are asked by board of education, Rose Bldg., until June 22, for completing alterations to South high school. Starr Cadwallader, Dir.——The General Cartage & Storage Co.'s 8-story fireproof warehouse, 100 x 100 ft., to be erected on Merwin St., will cost $250,000. Heavy elevators will be installed.

ASSONIA, O.—Bids are asked by board of education until June 8 for erecting school building. E. Schmidt, Clk.

DAYTON, O.—Bids are asked by board of education until June 18 for repairing various school buildings. W. G. Haeussler, Clk.

HAMILTON, O.—Bids are asked until June 15 for constructing hospital building at Mercy Hospital. G. W. Barkman, Arch.

SANDUSKY, O.—Bids are asked by trustees of the State Soldiers' Home until June 18 for completing improvements in various buildings. F. L. Packard, Arch., New Hayden Bldg., Columbus. Gen. Thos. T. Dill, Secy.

BOONVILLE, IND.—Bids are asked until July 1 for constructing court house. Harris & Shopbell, Archs., Evansville.

BREMEN, IND.—Architect Frazier, Napanee, has prepared plans for 2-story pressed brick and stone school building. Address School Board.

BLUFFTON, IND.—W. H. Powers, Arch., has completed plans for an office building, to be erected by Manus and David Beeler. Bids will soon be asked.

CRAWFORDSVILLE, IND.—Bids are asked until June 15 for remodeling court house. Address Auditor.

EVANSVILLE, IND.—The Evansville Brewing Association's club house in West Heights Park, will be 94 x 100 ft., with octagon towers and 75 x 100 ft. pavilion.

HARTFORD CITY, IND.—Bids will soon be asked for constructing high school building.

INDIANAPOLIS, IND.—Bids are asked by board school commissioners until June 11 for erecting school building at Senate Ave. and Walnut St. Thos. A. Winterrowd, Arch. J. E. Cleland, Business Dir.

NEW ALBANY, IND.—E. Moosmiller, Arch., has prepared plans for $75,000 school building. Address School Board.

ROCKVILLE, IND.—W. M. Picard is receiving bids for high school building.——Bids are asked for constructing heating plant for court house and jail.

BAY CITY, MICH.—Fire has destroyed the Masonic Temple, causing a loss of about $100,000. Insurance, $40,000.

MARQUETTE, MICH.—Bids are asked until June 10 for erecting library building. Patton & Miller, Archs., 153 La Salle St., Chicago, Ill. A. E. Delf, Secy. Peter White Pub. Library.

CHICAGO, ILL.—Larson Bros. will erect 40 flat buildings, 23 x 53 ft., on Francisco St., at cost of $180,000. C. F. Sorenson, Arch., 648 W. Claremont Ave.

PEORIA, ILL.—Two more stories will be added to the building at Adams and Fulton Sts. at cost of $65,000. Two elevators will be installed.

SAUK CITY, MINN.—Bids are asked by Bryant Library Assoc., until June 13 for erecting library building. Chas. R. Aldrich, Arch., 606 Lumber Exchange, Minneapolis. G. A. Stanton, Secy.

PLAINVIEW, MINN.—Bids are asked by board of education until June 30 for erecting high school building. Chandler & Park, Archs., Racine, Wis. G. F. Sylvester, Clk.

FORT MEADE, S. D.—Bids are asked until June 15 for constructing addition to hospital. Address Capt. C. B. Vogdes.

GRAND FORKS, N. D.—Bids are asked until June 17 for constructing gymnasium building and an administration building at the State University. J. B. De Remer, Arch. A. E. Morrison, Secy.

HELENA, MONT.—The proposed Henrietta Memorial Hospital will cost about $65,000.

TRENTON, MO.—A $60,000 court house will be erected.

HOT SPRINGS, ARK.—Plans have been accepted for new city hall and auditorium. Cost, $75,000.

AUSTIN, TEX.—Reports state that the Houston & Texas Central Ry. Co. will erect new freight depot.

BEAUMONT, TEX.—Wm. Weber received contract for reconstructing public building, at $51,870.

CLARKSVILLE, TEX.—Work will soon start on erection of Carnegie Library.

CONROE, TEX.—The Texas Railroad Commission has ordered the International & Great Northern and the Gulf, Colorado & Santa Fe Ry. Cos. to build a joint passenger station.

DALLAS, TEX.—Dr. J. O. McReynolds will erect an office building, 50 x 94 ft., at Akard and Jackson Sts.

DALLAS, TEX.—If a suitable site can be obtained, a new theatre will be erected. C. E. Bray is interested.

EL PASO, TEX.—It is proposed to build a new government building at St. Louis and Mesa Sts., which will be used as a post office and may cost several hundred thousand dollars.

FORT DAVIS, TEX.—The Fort Davis Presbyterian church trustees will erect a new church.

FORT WORTH, TEX.—Reports state that plans have been prepared for an office building for the Chicago, Rock Island & Gulf Ry. Co.

HEMPHILL, TEX.—An election has been ordered to decide upon issuing bonds for new county court house. Address County Judge.

SAN ANTONIO, TEX.—Jos. Schindler will erect a brick building on St. Joseph St.

SAN ANGELO, TEX.—O. Ruffini, Arch., is preparing plans for Simon Poll's brick business building.

HOUSTON, TEX.—The Odd Fellows' Hall Assoc. will erect a lodge building. Address C. E. Swindell.

TANGLEWOOD, TEX.—The San Antonio & Aransas Pass Ry. Co. will erect a passenger shed and a 3-car warehouse.

WACO, TEX.—A new jail is being discussed.——$60,000 will be spent on improving school building.

LAS VEGAS, N. M.—At meeting of city board of trade action was taken towards securing the Trainmen's Home, which is to be erected at a cost of $300,000.

GRASS VALLEY, CAL.—J. B. Haggin, New York, is contemplating the erection of a white marble residence to cost from $200,000 to $1,000,000.

LOS ANGELES, CAL.—The California Club will erect building at Hill and Fifth Sts. Cost, $100,000. John Parkinson, Arch. C. Leonardt received contract.

AGNEW, CAL.—Bids are asked until June 9 for erecting 2-story brick building at Agnews State Hospital. Wolfe & McKenzie, Archs. T. S. Montgomery, Secy.

SALT LAKE CITY, UTAH.—Bids are asked by board public works until June 5 for installing steam heating plant for the old city hall and fire department quarters. S. Clawson, Chn.——Plans are being prepared for the Oregon Short Line's new station. Cost, about $300,000. Heating plant will be installed.

WINNIPEG, MAN.—The Royal Bank of Canada will erect a bank building on Main St. Plans being prepared.

WATER SUPPLY AND IRRIGATION.

(For foreign water supply and irrigation, see under "Mexico," and "Foreign Contracts and Export News.")

BRUNSWICK, ME.—New water supply being sought; report on same to be made soon. W. R. Lincoln is a W.-W. Trustee.

WILTON, N. H.—Tyngstown Water Co. is having plans made for gravity system of works for this place; supply to be obtained from Varnum pond.

MONTPELIER, VT.—State health board has suggested that running a pipe from the local reservoir to the upper pond would prevent contamination of water supply.

CLINTON, MASS.—Several meters are to be put in and others may follow. A 3,400-ft. extension of the Wehepeke water is asked.

FRANKLIN, MASS.—W. E. Ruggles writes us that the town has appointed a committee of three to confer with the Franklin Water Co. relative to purchase of its property and franchise. No extensions or additions are contemplated at present.

MANCHESTER, MASS.—Town votes $20,000 for extending water mains.

MERRIMAC, MASS.—Town will put in works and appropriate $500 for finding water supply.

SOUTH DEERFIELD, MASS.—Bids are asked until June 15 for about 500 tons cast-iron bell and spigot pipes and special castings. J. B. Bridges, Water Comr. (See advertising columns.)

SOUTH FRAMINGHAM, MASS.—Committee, of which Chas. C. Barton is member, will consider purchase of works of Framingham Water Co. for town.

SPRINGFIELD, MASS.—We are informed that matter of local water supply is in hand of special committee, who may report this month. A. C. Martin is Supt. W.-W.

WINCHESTER, MASS.—Town votes $20,000 for reservoir and pumping station on West Side.

NATICK, R. I.—The Pawtuxet Valley Water Co. and the Warwick & Coventry Water Co. are both seeking the right to lay water mains in this place. The latter company also wishes to run its pipes to Apponaug.

HARTFORD, CONN.—Site for filtration plant for Connecticut River water to be purchased. It will be some time, however, before plans for work are completed.

BRUSHTON, N. Y.—Luther E. Ellison, Winthrop, N. Y., is interested in establishing works here.

HORSEHEAD, N. Y.—Bids are to be called for soon for constructing system of village water-works. R. G. Eisenhart is Village Pres.

MATAMORAS, N. Y.—Franchise of Matamoras Water Co. has expired and a charter for independent system will be applied for June 17.

NEW YORK, N. Y.—Bids are asked by Commissioner Water Supply, Gas & Electricity, 13 Park Row, until June 9, for new boilers and appurtenances at pumping stations 1 and 3, and at Tottenville station. Bids are also asked until June 18 for furnishing and laying 48-in. cast-iron force main with complete appurtenances, from Ridgewood pumping station to Mount Prospect high service tower. Robt. Grier Monroe, Comr.

NORTH TONAWANDA, N. Y.—Bids are asked until June 15 for 24-in. cast-iron force main; a 24-in. flexible cast-iron pipe will be used in crossing river. Geo. J. Smith, Cy. Clk.

PORT WASHINGTON, N. Y.—Contract for water supply let to Nassau Water Co., Glen Cove, N. Y. Village will have 40 hydrants.

YONKERS, N. Y.—The following bids were received for constructing a filter bed at the tube wells station: Robert L. Stewart, $52,760; Tucker & Vinton, $45,895; Grady, Kearns & Hart, $59,556; New York Continental Jewel Filtration Co., $56,450; Molloy & Murray, $58,865.

BLOOMFIELD, N. J.—Orange Water Co. has granted town an option on its local plant. The price asked is $150,000. Wilfred F. Harrison is Chn. Water Com.

CAMDEN, N. J.—We are informed that bids for annual water-works supplies consisting of meters, etc., will be received June 10. L. E. Farnham, Cy. Engr.

EAST ORANGE, N. J.—Council is seeking new water supply. C. C. Vermeule, 203 Broadway, N. Y., has been retained as consulting engineer.

JERSEY CITY, N. J.—Street and water board asks appropriation of $1,125,000 for the fiscal year.

LAUREL SPRINGS, N. J.—We are informed that the Laurel Springs Water Co., C. S. King, Secy., 305 Market St., Camden, N. J., is ready to consider propositions for construction of water-works, and furnishing of capital to be secured by bonds. The source of supply is to be from artesian wells. Population, 2,500.

MANASQUAN, N. J.—Village will vote June 30 on works to cost about $35,000.

ALLEGHENY, PA.—Bids are reported asked until Aug. 1 for erecting brick pumping station on Broadway. D. L. Fulton, Dir. Pub. Wks.

COOPERSBURG, PA.—Town will have $25,000 works.

COOPERSBURG, PA.—Bids are asked until June 15 for constructing gravity water-works, as described in our advertising columns. Warren F. Cressman, Sellersville, Pa., Engr.; M. L. Engelman, Borough Clk.

ERIE, PA.—Bids are asked until June 27 for laying about 2,800 ft. of 5-ft. cast-iron submerged intake water pipe. Geo. H. Fenkell, Engr.; G. Clark Olds, Comr. W.-W. (See advertising columns.)

ERIE, PA.—Bids are asked until June 27 for furnishing about 1,202 tons cast-iron water pipe and about 6¾ tons special castings. G. Clark Olds, Comr. W.-W. (See advertising columns.)

HARRISBURG, PA.—In regard to local water-works improvements we are informed that money has been secured and plans are rapidly being formulated. Bids for work will be called in near future. M. B. Cowdon is Cy. Engr.

PITTSBURG, PA.—We are informed under date of May 29 that material is being purchased for proposed re-enforcing of old water mains, and bids will probably be called within the next 30 days. A. B. Shepherd, Supt. W.-W.

WAYNESBORO, PA.—Waynesboro Water Co., A. B. Landis, Supt., will enlarge works.

READING, PA.—Plans for boiler house at local water-works are being made by Chas. A. Hague, Liberty St., New York, N. Y.

BETHLEHEM, PA.—Bethlehem Consolidated Water Co., H. E. Heebberoth, Supt., comtemplate erection of filtration plant in South Bethlehem.

BROOKLYN, MD.—Brooklyn Improvement Association advocates works.

PERRYVILLE, MD.—New water company talked of.

WASHINGTON, D. C.—Estimate made by the General Land Office states that by July 1 the fund in the treasury department for irrigation purposes will amount to about $15,000,000.

WASHINGTON, D. C.—The following bids were received April 30 for constructing water supply system, grading, etc., at Washington Barracks, as advertised in Engineering News: (1) for water-works, (2) grading, (3) roads, (4) sidewalks, (5) sewers, (6) drainage: Brennaw Construction Co., Washington, D. C., (1) $24,558, (2) $54,450, (3) $52,146, (4) $9,100, (5) $30,744, (6) $29,705; Crawford Paving Co., Washington, D. C., (1) 29,205, (2) $42,000, (3) $67,240, (4) $7,490, (5) $31,867, (6) $13,203; B. F. Pope Stone Co., Baltimore, Md., (3) $23,460; Colburn Paving Co., Washington, D. C., (4) $5,950; Ed. J. Hannan, Washington, D. C., (1) $19,932, (3) $14,428, (5) $15,934, (6) $10,180. Itemized bids for cement and sand for this work are given in Contract Prices.

FORT MONROE, VA.—Bids are asked until June 11 for extending water system. C. P. Townsley, Q. M.

SHINNSTON, W. VA.—J. R. Miller, Gypsy, W. Va., has reported plans for new water-works to cost about $8,000; sewerage also considered. H. T. Shinn is Mayor.

SPENCER, W. VA.—Private works proposed.

WILMINGTON, N. C.—Stated that Clerendon Water-Works Co. will put in 2,750,000-gallon pump at Hilton Station.

COLUMBIA, S. C.—Plans and estimates for increased supply are to be made.

DARLINGTON, S. C.—We were informed under date of May 30 that contracts were not let for hydrants, cast-iron pipe, valves, etc., for water-works plant of Darlington Light & Water Co. W. M. Hayunworth, Pres.

BILOXI, MISS.—Bids are asked by the mayor and council until June 5 for steel tower and tank and for one 8-in. artesian well 240 ft. deep, with option on two others. Kirkpatrick & Johnson, Engrs., Jackson, Miss.

YAZOO, MISS.—Kirkpatrick & Johnson, Engrs., Jackson, Miss., have prepared plans for system of water-works, comprising about 12 miles mains; system of sewers about 12 miles long; electric light plant, about 300-KW. generators, with boilers, engines, pumps, building, etc. Date for letting will be announced within 30 days.

PICKENS, MISS.—City will construct works after plans of Kirkpatrick & Johnson, Engrs., Jackson, Miss.

HARRIMAN, TENN.—Contract for reservoir for this place let to Van D. Hite Smith, Knoxville, Tenn., for $12,049.

MEMPHIS, TENN.—City will probably buy South Memphis auxiliary station of Artesian Water Co. E. B. Le Master is Chn. Water Com.

TENNESSEE CITY, TENN.—Committee, Anson King, member, is to negotiate for new water supply.

OWENSBORO, KY.—John P. Force, Cons. Engr., has made an estimate of cost of proposed water-works for this city.

CLEVELAND, O.—Bids are asked until June 13 for furnishing about 248 tons of manhole rings and covers. A. R. Callow, Secy., Bd. Public Service. (See advertising columns.)

DAYTON, O.—Council may appropriate $56,000 for extending pipe lines, as is recommended by Chas. E. Rowe, Supt. W.-W.

TOLEDO, O.—Plans for a 20-in. main to the East Side are in hands of T. R. Cook, Supt. W-W. The cost is estimated at $32,000.

GOSHEN, IND.—Bids are asked until June 15 for construction of well 40 ft. in diameter and 30 or more feet deep. Ben. C. Bender, Cy. Clk.

OAKLAND CITY, IND.—Bids are asked until June 20 for furnishing material (save pipe), laying pipe, building dam, erecting water tower and tank, power stations, etc., for water-works. W. T. Creer, Secy., Oakland City Water Co.

TERRE HAUTE, IND.—Terre Haute Water-Works Co. has asked leave to extend its mains beyond the city limits.

HOUGHTON, MICH.—We are informed that the entire matter of an additional water supply for this city is under investigation. F. W. Cappelin, 610 Globe Bldg., Minneapolis, Minn., is Des. Engr.

PETOSKEY, MICH.—John W. Alvord, Consult. Engr., Chicago, Ill., has been engaged to report on proposed consolidation of water-works, electric light and water power for the city.

QUINCY, ILL.—We are informed that franchise of local water-works expires in August and that it is hoped to arrive at some conclusion by which the city may become owner of the plant, which is valued at about $500,000. City has sinking fund of over $200,000. John A. Steinback, Mayor.

ROCKFORD, ILL.—6,000 ft. water main extensions approved by fire and water committee.

JUNEAU, WIS.—Theo. Heming, Mayor, writes us under date of May 26 that bids for extending water-works about 5,000 ft. will be received inside of 30 days.

MAXWELL, IA.—City works to be improved and steel tower erected.

OSCEOLA, IA.—City voted on works May 30.

STORM LAKE, IA.—New works planned.

BRAINERD, MINN.—City may purchase local works, said to be worth about $125,000.

FREEPORT, MINN.—Bids are asked until June 6 for system of water-works. P. Benolken, Village Pres.; G. Harren, Village Recdr.

TOPEKA, KAN.—We are informed that no plans are under consideration at present for new work. The payment for the local plant, which has been purchased by city, is to be made by recently-voted bond issue. It will be, however, six to nine months before transfer of title can be made. W. S. Bergundipol, Mayor.

WINFIELD, KAN.—Bids are asked until June 8 for stand-pipe for Kansas State Asylum. John F. Stanton, Topeka, Kan., State Arch.; Henry J. Allen, Pres. State Bd. Charities, Topeka.

CHEYENNE, WYO.—Constructing Quartermaster's Office, J. W. Scott, Q. M., will soon ask bids for constructing 11,000 ft. of 12-in. irrigating conduit for Fort D. A. Russell.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

EMERSON, NEB.—Arnold C. Koenig, Hydr. Engr., 514 Bee Bldg., Omaha, Neb., is to make plans and specifications for works for this place. Webb Kellog is Mayor.

BUTTE, MONT.—Butte Water Co. said to be planning to lay about seven miles of mains. Eugene Carroll is Supt.

LIVINGSTON, MONT.—Livingston Water-Works & Electric Co. may extend water mains.

SALEM, S. DAK.—Stated 12 or 15 blocks of new mains are to be put in.

GRAND FORKS, N. DAK.—City votes July 2 on matter of water supply for East Grand Forks.

ST. LOUIS, MO.—Bids are asked until June 10 for improving water supply system at Jefferson Barracks. W. C. R. Colquhoun, Dept. Q. M.

AUSTIN, TEX.—John W. Maxcy, C. E., Houston, Tex., has been making surveys for the utilization of springs at Del Rio for irrigation purposes. G. Bedell Moore, San Antonio, Tex., is among those interested.

DALLAS, TEX.—Chester B. Davis, Consult. Engr., has been engaged on a report as to best method of improving local water supply.

FORT WORTH TEX.—Contract for filter bed at tube well station on Saw Mill River road let to Tucker & Vinton, for $45,895.

TAYLOR, TEX.—Board to appraise works of Taylor Water Co. for purchase by city appointed, Harry Wright, Palestine, Tex., being a member.

COLORADO SPRINGS, COLO.—H. T. Reed, C. E., has completed surveys of reservoirs in Fountain Valley, to be used for irrigation work.

BALLARD, WASH.—Fire and water committee has reported that a 500,000-gallon reservoir can be built at the park for about $4,000, whereas a stand-pipe would cost about $18,000.

CHELAN, WASH.—We are informed that the Chelan Water Power Co., W. J. Long, Secy., will put in water-works for towns of Chelen and Lakeside. At time of writing, May 21, no contracts had been made for pumps, pipes, etc.

HILLMAN CITY, WASH.—50-year franchise for laying water mains in this place and vicinity granted to C. D. Hillman.

TACOMA, WASH.—We are informed that bids will be received about June 15 for new 4,000,000 gallon middle service reservoir. About 30,000 cu. yds. excavation and 6,000 sq. yds. concrete lining will be required. N. L. Taylor, Cy. Engr.

PALO ALTO, CAL.—Bids are asked until June 6 for extending water-works. D. H. W. Simkins, Town Clk.

REDDING, CAL.—We are informed that new works are proposed. A 12-mile pipe line will be laid to Brandy Creek. D. M. Bursen is Cy. Engr. G. H. Cochran is Supt. Sts.

SAN BERNARDINO, CAL.—City is to buy water in Lytle Creek Cañon and city engineer is to make plans and specifications for new works.

SAN JOSE, CAL.—Reported that San Jose Water Co. contemplates building reservoir and dam on headwaters of Los Gatos Creek.

BOISE, IDAHO.—The Ridenbaugh irrigation canal has been sold to a syndicate of Boise capitalists for $325,000. The canal is 60 miles long and irrigates 22,000 acres of land. W. E. Borah is interested.

OGDEN, UTAH.—The Weber River Power & Reservoir Co. were to have acted on plans May 28 for constructing reservoirs.

SALT LAKE CITY, UTAH.—Contract for completing canal system in Idaho of American Falls Canal & Power Co. let to Lyman Skeen, Ogden, Utah. The work will cost about $325,000, exclusive of headgates.

PHOENIX, ARIZ.—A model of the dam to be constructed on Salt River has been made by the U. S. Geological Survey. It shows a dam 188 ft. thick at the base, 830 ft. long and 250 ft. high. It will be composed of 11,600,000 cu. ft. of masonry and will impound 1,020,000 acre-feet of water. About 300,000 acres of land will be irrigated.

PRESCOTT, ARIZ.—City will improve its works at cost of about $100,000.

TUCSON, ARIZ.—The following bids were received May 20 for furnishing 4,000,000-gallon pumping engine, as advertised in Engineering News: T. Conlon, Supt. W. Dept.: Barr Pumping Engine Co., Philadelphia, Pa., $21,000; Snow Pump Co., Buffalo, N. Y., $20,900; Tracy Engineering Co., Nordberg type, San Francisco, Cal., $17,180 (awarded contract); Laidlaw, Dunn & Gordon, Cincinnati, O., $14,225.

ST. STEPHEN, N. B.—City works considered.

BONDS.—Aurelia, Ia., votes on bond issue for new works.——Williamsburg, Mass., votes to issue $50,000 water-works construction bonds.——Winchester, Mass., votes to issue $20,000 bonds for water-works extensions.——Greene, N. Y., will issue $8,000 additional water-works bonds.——Salem, S. Dak., votes additional bonds for new works.——Taylor, Tex., may vote bonds to purchase works.——Manasquan, N. J. votes June 30 on $35,000 water-works construction bonds.——Odessa, Wash., will issue $12,000 of bonds for building works.——Dallas, Ore., through Dan P. Stouffer, Auditor, will receive bids until June 20 for $15,000 water bonds.——Prescott, Ariz., will receive bids until June 15 for $100,000 water and sewer bonds. Henry Hartin, Cy. Treas.——Sydney Mines, N. S., will receive bids until June 15 for $75,000 water-works installation bonds. Dan C. McDonald, Town Clk.——Wilson, N. C., votes to issue $40,000 water extension and street paving bonds.——Mangum, Okla., will issue $30,000 water-works bonds.——Coopersville, Mich., will vote on bond issue for works.

NEW COMPANIES.—Davenport Water Power Co., Davenport, Ia.; $10,000; to furnish mills and factories with water.——City Water Supply Corporation, Derby, Conn.; $150,000; Wm. S. Downs, Daniel S. Brinsmade, Huntington, Conn.——Horseshoe Lake Water Co., Rochester, N. Y.; $125,000; Chas. L. Hunt, Rochester; Chas. O. Hughes, Batavia, N. Y.; J. B. Hamilton, Rush; company has franchise to supply Oakfield.——City Water Co., Scranton, Pa.; Thos. C. Kerr, Clearfield, Pa.; Wm. L. Connell, Wm. P. Boland, Scranton.——Little Falls Water Co., Little Falls Township, N. J.; $60,000; H. C. Tillson, Wm. R. Smith, H. L. Diebert.——Wilder Springs Water Co., Chattanooga, Tenn.; $10,000; N. H. Brown, H. B. Wood, Earl McCurdy; to supply East Chattanooga and Sherman Heights.

SEWERAGE.

(For foreign sewerage work, see under "Mexico," and "Foreign Contracts and Export News.")

CAMDEN, ME.—Fales & Simmons, Rockland, received contract for constructing 2,331 ft. of sewer.

GARDNER, MASS.—$15,000 appropriated for sewers.

NEW BEDFORD, MASS.—The sum of $5,475 appropriated for sewers in Colette St. and Shawmut and Rockdale Aves.

BROCKPORT, N. Y.—$15,000 will be spent on sewer system.

BROOKLYN, N. Y.—Bids are asked by the borough president, Municipal Bldg., until June 17, for furnishing enginemen's supplies to the Bureau of Sewers.——Bids are asked until June 10 for constructing about 2,000 ft. 12—15-in. pipe sewer.

BUFFALO, N. Y.—Bids are asked by board public works until June 9 for constructing 10 to 36-in. brick and tile sewer. F. G. Ward, Comr.

NEW YORK, N. Y.—A sewer will be constructed in 12th Ave. Cost, $3,100.

ONEIDA, N. Y.—A sewer may be built in East Walnut St.

PEN YAN, N. Y.—Knight & Hopkins, Engrs., Rome, have completed plans for sewer system. Cost, $75,000.

CAPE MAY CITY, N. J.—Work will soon start on extension of sewer system.

HOBOKEN, N. J.—The sum of $35,000 will be spent in cleaning and repairing sewers.

JERSEY CITY, N. J.—C. J. O'Neill received contract for constructing relief sewers in Fairmount and Fairview Aves. H. Byrne received contract for Carlton Ave. sewer at $8,068; also P. E. McCabe for sewer in Harrison Ave., at $7,079.

JERSEY SHORE, PA.—Bids are asked until June 24 for constructing 10,555 ft. of 8 to 18-in. pipe sewer and 5,000 ft. of 4-in. house connections, as stated in our advertising columns. M. I. Sallida, Pres. Council.

LEWISTOWN, PA.—The sum of $75,000 will be spent on sewer system

WASHINGTON, PA.—The Wade Land Co. awarded William Pickett & Co. contract for constructing brick sewers in various streets.

WILMINGTON, DEL.—T. Chalkley Hatton, Consult. Engr., writes us that the following bids have been received for constructing Price's Run Sewer: H. A. Miller, $95,927; J. D. Murray, $103,328; Baltimore Const. Co., $111,152, and Christiana Const. Co., $112,410. Bids rejected owing to irregularity and new ones will be received June 6.

NORFOLK, VA.—The Peck-Hammond system of sewerage will be installed in school buildings at cost of $4,500.

SHINNSTON, W. VA.—Sewerage considered. H. T. Shinn is Mayor.

GREENSBORO, N. C.—Sewer system will cost $70,000.

ATLANTA, GA.—24,300 ft. of sewer extension will be made, including purification plants. Cost, $250,000. Address "The Mayor."

GRIFFIN, GA.—Sewers being discussed. Mayor Bailey is interested.

HARRIMAN, TENN.—Van D. Hite Smith, Knoxville, received contract for constructing sewer, at $5,041. F. J. Manley is Cy. Engr.

CELINA, O.—Sewer system discussed.

COLUMBUS, O.—Councilman Murnane is urging sewer construction for the West Side.

YOUNGSTOWN, O.—Plans and specifications will be prepared for constructing sewers in Wilson Ave. and Broadway. P. W. Hubler is Cy. Clk.

CONNERSVILLE, IND.—Contract has been let for sanitary sewer extension at $80,000.

WYONDOTTE, MICH.—Sewer system discussed. Cost, $100,000.

AURORA, ILL.—H. D. Hallett received contract for extending sewers in District No. 5, at $4,195.

ROCKFORD, ILL.—The Kent sewer will cost $36,542.

MILWAUKEE, WIS.—Bids are asked by board public works until June 6 for constructing pipe sewers. Chas. J. Poetsch, Comr.

BURLINGTON, IA.—Bids are asked until June 15 for constructing Stoney Lonesome Sewer; also for constructing main Hawkeye sewer. Emmet Steece, Cy. Engr. (See advertising columns.)

DAVENPORT, IA.—Sewers will be constructed in Parry and Le Claire Sts. and Grand Ave. Cost, $5,762. J. W. McGee is Cy. Clk.

DES MOINES, IA.—A 12-in. pipe sewer will be constructed in Brooks St. E. R. Bennett is Cy. Clk.

FORT DODGE, IA.—Bids are asked until June 8 for constructing storm water sewer. D. A. Weller, Cy. Clk.

WATERLOO, IA.—Bids are asked until June 9 for constructing various sewers, 8 to 12 ins. in diameter. B. G. Stewart, Cy. Clk.

GRAND RAPIDS, MINN.—Bids are asked until June 10 for constructing 3,100 ft. of sewer in Kindred Ave. E. B. Banks, Cy. Engr., West Superior, Wis.

ST. PAUL, MINN.—A sewer will be constructed in Fairfield Ave. St. Anthony Park sewer system will cost about $250,000.

ARMOURDALE, KAN.—Sanitary sewer system will cost $50,000.

FORT LEAVENWORTH, KAN.—Bids are asked until June 19 for constructing sewage purification plant, crematory and smoke stack. Maj. D. E. McCarthy, Q. M.

JAMESTOWN, N. D.—Sewer system will cost $12,000.

KANSAS CITY, MO.—D. W. Pike, Cy. Engr., is preparing plans for sewers.

LITTLE ROCK, ARK.—J. F. Keiser, Supt. Pub. Wks., writes us that bids will soon be asked for constructing about five miles of sewers.

WACO, TEX.—Bids are asked until June 6 for constructing sanitary sewer. The sewer system will be extended to the Texas Christian University.

ARDMORE, I. T.—Sewer system will cost $8,000.

BESSEMER, COLO.—E. W. Hathaway, Cy. Engr. writes us that J. M. O'Rourke Con. Co. received stone sewer contract at $335,000.

PENDLETON, O.—G. H. Sutherland Co., Walla Walla, received contract for constructing sewer system, at $24,349.

LORDSBURG, CAL.—Sewers being discussed.

PASADENA, CAL.—Sewers will probably be constructed in Waverly Drive, Colorado and Pearl Sts.

STOCKTON, CAL.—John Craven submitted lowest bid for constructing the rain water sewer.

VENTURA, CAL.—Plans and specifications will be prepared for sewer extensions.

VANCOUVER, B. C.—Extension of sewer system discussed; $14,000 available.

WOODSTOCK, ONT.—We are informed that bids are asked until June 18 for about 18,000 ft. 10 to 18-in. sewers, average cut 8 ft.; four 16×100-ft. concrete septic tanks and filter beds. F. J. Ure, Cy. Engr., is official in charge.

STREETS AND ROADS.

HINTS FOR BIDDERS ON THE MILLION DOLLARS' WORTH OF ROADWORK IN NEW YORK STATE.

Bids on thirty-two state roads, aggregating 134 miles, are to be opened by the State Engineer and Surveyor, at Albany, N. Y., on Monday, June 8, and Tuesday, June 10, as announced in our advertising columns. Specifications and bidding sheets for these 32 contracts may be seen at our office at 220 Broadway, New York city; but in order that prospective bidders may have a clearer idea of the character of each contract, we have tabulated the items as follows:

IMPROVEMENTS TO 32 NEW YORK STATE ROADS, BIDS FOR WHICH TO BE OPENED ON JUNE 8 AND 10, 1903, BY THE STATE ENGINEER, AT ALBANY, N. Y.

No. of road.	County.	Length in miles.	Cu. yds. Excavation.	Cu. yds. Macadam.	Cu. yds. Concrete or masonry.	Sq. yds. of gutter paving.	Lbs. of steel beams, etc.	Hemlock or spruce, ft., B.M.	Rods of fencing.	Other items.
72	Tompkins (M)	1.869	6,000	2,994 (local)	145	390	300	9,500	70	10,000 ft. 4-in. tile; 1,630 sq. ft. expanded metal.
126	Broome (M)	1.970	3,942	2,840 "	63	49	420	15,370	...	.....
127	Broome (M)	2.076	9,400	3,237 "	134	115	300	9,000	9	1,200 lin.ft. 4-in. tile; 1,500 sq.ft. expanded metal.
128	Erie (W)	5.573	11,450	9,018 (1/3 trap)	308	288	1,250	44,700	234	808 ft. vit. pipe, 12 to 24-in.; 22,418 lbs. c.-i. pipe.
129	" "	3.015	4,400	4,776 (1/3 trap)	139	160	100	5,870	85	464 ft. vitrified pipe.
130	" "	5.625	9,100	7,920 (limestone)	37	57	440	16,110	...	13,050 lbs. cast-iron pipe.
131	" "	6.581	12,000	7,923 (limestone)	220	182	930	34,040	13	8,700 lbs. cast-iron pipe; 2,407 sq. ft. exp. metal.
132	Onondaga (M)	1.13	1,885	1,800 (1/4 trap)	39	36	220	8,050	...	.....
133	Herkimer (E)	2.29	6,000	3,140 (local)	240	236	2,690	10,000	240	2,160 sq. ft. 6-in. flagging.
134	Broome (M)	2.17	4,780	3,242 (1/3 trap)	85	75	500	18,300	...	800 sq. ft. expanded metal.
135	Dutchess (E)	3.29	10,300	4,500 (1/3 trap)	100	890	640	.....	...	1,050 sq. ft. 6-in. flagging.
136	Clinton (E)	1.75	3,630	2,740 (local)	85	95	550	5,000	30	1,000 " " "
137	" "	4.52	12,100	7,080 "	330	250	7,400	19,000	100	2,470 " " " 120 yds. broken stone
138	" "	7.57	24,000	10,540 "	520	460	9,600	26,000	140	4,800 " " " 200 yds. broken stone
139	Oneida (M)	1.29	3,720	1,578 "	30	27	250	8,100	...	.....
140	Oneida (M)	2.28	5,730	3,000 "	78	72	300	13,180	4	780 sq. ft. exp. metal; 72 cu. yds. broken stone.
141	Ulster (E)	6.82	35,860	8,364 "	717	760	22,650	60,000	420*	4,650 sq.ft. 6-in. flagging; 1,960 ft. 6-in. tile.
142	Ulster (E)	2.85	15,000	3,030 (1/3 trap)	545	450	12,900	37,000	200	2,680 " " " 54 ft. bridge railing.
143	Westchester (E)	3.14	19,000	3,080 (local)	280	160	2,850	18,000	250†	1,500 " " " 15 acres clear'g-grub'g
144	Westchester (E)	5.30	27,000	6,320 "	475	2,420	7,000	28,000	200	4,600 " " " 45 ft. bridge railing
145	Delaware (E)	1.00	6,545	1,453 (gravel)	100	110	.....	.....	85	1,040 " " " 500 ft. 5-in. vit. pipe.
146	Ontario (W)	5.624	8,700	7,890 (limestone)	79	622	3,225	17,600	117	11,930 lbs. cast-iron pipe; 182 ft. vit. pipe.
147	Jefferson (M)	3.92	14,600	4,656 (1/3 granite)	182	945	3,500	20,000	...	1,200 sq. ft. exp. metal; 124 cu. yds. broken stone
148	Westchester (E)	3.49	17,500	4,090 (local)	295	200	8,250	47,000	440	2,250 sq.ft. 6-in. flagging; 52 ft. bridge railing
149	" "	6.62	22,200	7,774 "	590	3,300	8,700	26,000	325	4,200 " " " 174 cu. yds. broken stone
150	" "	3.27	21,500	3,884 "	390	770	7,500	21,000	190	3,500 " " " 5 acres clear'g & grub'g
151	" "	5.99	36,550	7,024 "	945	5,320	23,050	42,000	325‡	7,800 " " " 164 ft. bridge railing.
152	Montgomery (E)	2.50	6,400	3,912 (stone)	180	130	5,000	14,500	45	2,100 " " " 66 cu.yds. broken stone.
153	Orange (E)	13.38	60,000	15,794 (grvl-sh'le)	950	.....	10,300	53,000	390	8,825 " " "
154	Orange (E)	11.49	56,500	13,500 (grvl-sh'le)	590	.....	3,065	47,000	410	7,200 " " "
155	Montgomery (E)	2.50	12,000	3,912 (stone)	270	425	3,900	14,800	...	2,850 " " " 66 cu.yds. broken stone
156	Orange (E)	3.10	29,000	3,600 (gravel)	400	270	9,270	22,200	228	3,000 " " "

*180 cu. yds. broken stone. †320 cu. yds. riprap; 104 ft. bridge railing; 80 cu. yds. broken stone. ‡158 cu. yds. broken stone; 5,660 ft., B. M., oak.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

For a few of the roads enumerated certain small items have not been included in the above tabular list, but such items are so small as scarcely to affect the lump sum bidding price on each job. In the column headed "County" the letter (E) signifies work in the Eastern Division of the State, (M) in the Middle Division, and (W) the Western Division.

The column of "Excavation" gives the yardage which is very generally earth excavation, but on a few of the contracts rock is encountered, and as a lump sum must be bid for each road, the contractor must satisfy himself as to the character of the excavation.

The pavement on nearly every road is broken stone macadam, 6 ins. thick after rolling, but on three roads in Orange County, Nos. 153, 154 and 156, gravel or shale will be used in place of broken stone, except upon five miles of road, No. 153, where it has recently been decided to use macadam 6 ins. thick by 12 ft. wide. In the column giving the yardage (notice that it is cubic yards, not square yards) of macadam the expression (local) means local crushed stone; (⅓ trap) means 2 ins. of macadam of trap rock from the Hudson Palisades laid on 4 ins. of local macadam, that is one-third trap and two-thirds local stone. It may not be amiss to call attention to the fact that the bidding sheets give not only the yardage of macadam rolled in place, but the cubic yards of loose stone and loose screenings needed to make the compacted macadam are also given. This is mentioned here, as it confuses some contractors. To arrive at an estimate of the amount of loose stone the engineers have added 33 to 35% to the yardage of the compacted macadam, thus assuming that 1.35 cu. yds. of loose stone can be compacted under the roller to 1 cu. yd.; and to this they have added 0.35 to 0.60 cu. yd. of loose screenings for each 1 cu. yd. of macadam, which is a liberal estimate.

It may not be known to many prospective bidders that plans and specifications for next year's work have already been drawn up, and can be also seen at Albany. This makes it possible for a contractor to look over the site of future work at the same time that he is viewing the work to be let next week. To be exact, some 340 miles of work, in addition to these 134, have been surveyed and plans made, so it lacks only a State appropriation for the work to be advertised. The location, name and mileage of each of these roads to be built in future years can be had in tabular form by writing to the State Engineer and Surveyor, Albany, N. Y.

As above stated, a lump sum must be bid on each contract. The names of bidders and their respective bids will probably be given in these columns. Contractors from other states might do well to consult copies of the N. Y. State Engineer's Reports of the last four years before bidding, and note the bids of contractors who have done similar work before. Those reports may be seen at our office, as well as at the offices of the three Division Engineers, at Albany, at Syracuse, and at Rochester.

While the State Engineer no longer makes a practice of giving out the estimated cost of each road, the sums set aside for each group of roads indicates in a general way their expected cost, including engineering and inspection expenses, thus:

Roads.	Miles.	Sums Appropriated.
Nos. 126 to 135, inclusive.....	33.68	$400,000
Nos. 136 to 141, "	24.23	200,000
Nos. 142 to 147, "	21.76	200,000
Nos. 148 to 152, "	21.59	200,000
Nos. 153 to 156, "	30.90	200,000

Regarding the award of contracts, the law makes it mandatory to award to the "lowest responsible bidder," and recent awards have been uniformly to the lowest bidder. When the lowest bid exceeds the State Engineer's estimate of the cost he usually re-advertises the work, although in some cases by arrangement with the Board of Supervisors an additional appropriation has been secured so that the award could be made even though the bid exceeded the estimate. Contractors who have done canal work in New York State will know that the law makes it impossible to award a contract to a bidder whose bid exceeds the Engineer's estimate, but on roadwork this condition does not hold good.

BOSTON, MASS.—The sum of $3,000 appropriated for paving Everett Ave.

NEW BEDFORD, MASS.—$75,000 appropriated for streets and highways.

PITTSFIELD, MASS.—The sum of $6,000 will probably be spent on Greylock roads.

SPRINGFIELD, MASS.—An appropriation of $4,000 made for state road.

WEST BOYLSTON, MASS.—Bids are asked by Metropolitan water and sewerage board until June 10 for building a road at the Wachusett Reservoir; 32,000 cu. yds. earth excavation.

PROVIDENCE, R. I.—Bids are asked by state board public works, State House, until June 17 for constructing 17,620 ft. of roads. J. H. Edwards, State Bd. Pub. Wks.

SOUTH NORWICH, CONN.—J. R. Taylor, Cy. Clk., writes us that C. W. Blakeslee & Sons, New Haven, received contract for paving Washington St. with brick at $8,725. C. N. Wood, Engr., Norwalk.

FORT TOTTEN, N. Y.—The following bids have been received for grading and constructing roads and sidewalks: R. L. Christier, 103 E. 125th St., New York, $53,290; Peace Bros., Flushing, New York, $51,280; Frank Pidgeon, Saugerties, New York, $76,741; Lawrence Collins, Whitestone, New York, $72,175.

OSWEGO, N. Y.—Bids are asked by board public works until June 15 for paving about 5,000 sq. yds. with brick, asphalt and bituminous macadam.

GENEVA, N. Y.—F. A. Malette received contract for paving Pulteney St. with tar macadam at $19,085 and 1,100 ft. on Lake St. at $8,000; also R. W. Henson for paving Wadsworth St. with brick at $4,353.

BROOKLYN, N. Y.—Bids are asked by the borough president, Municipal Building, until June 13, for paving 433,941 sq. yds. with asphalt, and relaying 68,466 sq. yds. of stone pavement.

ATLANTIC CITY, N. J.—Houston, Congress and Bellevue Aves. will be paved. Cost, $15,000.

FREEHOLD, N. J.—Bids are asked by board freeholders until June 15 for building first section of Manalapan and Freehold macadam road. John Guire, Dir.. (See advertising columns.)

MOUNT HOLLY, N. J.—Bids are asked by board freeholders until June 20 for constructing macadam and gravel roads, as stated in our advertising columns. J. E. Darnell, Dir.

HOBOKEN, N. J.—The streets to be repaved, according to the estimate, are as follows: Portions of Bergen and Palisade Aves., Grand, Montgomery and Eighth Sts., and Newark, Bergen and Summit Aves., and Sherman Pl., $237,600.

WOODBURY, N. J.—Cooper St. will be widened and paved with brick at cost of $25,000.

GETTYSBURG, PA.—Bids are asked by the War Department, Gettysburg Nat. Park Com., until June 10 for grading and constructing 3,882 ft. of road on Chamberlain Ave. J. P. Nicholson, Chn.

CHARLOTTESVILLE, VA.—Contract let to Pfaff, Ringwald & Smith, Chillicothe, O., for paving 30,000 sq. yds. with brick and 40,000 sq. yds. with macadam at $75,956. W. M. Demott is Cy. Engr.

BIRMINGHAM, ALA.—Byron & Sanders received contract for sidewalk at $4,180.

DANDRIDGE, TENN.—Fred. Netherland received contract for constructing four miles of macadamized road.

PADUCAH, KY.—L. A. Washington, Cy. Engr., estimates 500,000 brick will be required to build new streets. Cost, $11,000.

CINCINNATI, O.—Culvert, Gilbert, May, Fourth and Fern Sts. will be paved with asphalt. E. Henderson is Clerk.

CLEVELAND, O.—Bids are asked by board of commissioners until July 1 for paving Euclid Road with brick. J. C. Dorn, Clk.

FREMONT, O.—Paving being discussed. Geo. Engler is Mayor.

LAKEWOOD, O.—Various streets will be improved by brick paving and sewers constructed; also water mains laid. H. J. Sensel is Village Clk.

NAPOLEON, O.—Bids are asked until June 12 for constructing road improvements. D. F. Coe, County Auditor.

INDIANAPOLIS, IND.—Bids will soon be asked for constructing about three miles of flint rock macadam roadway, brick gutters, etc., on Roosevelt Ave. Cost, $116,000. ——Movement on foot for making boulevard of North Meridian St., from 34th St. to the canal. Distance, two miles.

MICHIGAN CITY, IND.—The following were bidders on the street improvement work planned for Ohio, Pine, Green, Fourth, Eighth and Detroit Sts. and Krueger Ave.: J. E. Southard, W. H. Bell, Elkhart Construction Co., Hoosier Construction Co.

ROCKVILLE, IND.—Plans and specifications being prepared for three gravel and rock roads in Union township. A. Pickett is Engr. H. Brube is Audtr.

VERSAILLES, IND.—Steinitz & Voltz received contract for constructing nine miles of pike in Johnson township. J. E. Wright is Engr.——Brown, Aller Creek and Delaware townships will construct 10 miles of gravel roads. Address Auditor Spence.

WINAMAC, IND.—County commissioners have orderd 10 miles of gravel and crushed stone roads reconstructed. Cost, $26,000.

GRAND RAPIDS, MICH.—T. Williams, county surveyor, is preparing plans for proposed new driveway from Turner St. to Mill Creek.

ST. CLAIR, MICH.—$30,000 available for paving St. Clair St.

CHICAGO, ILL.—The contract for paving various streets has been awarded to P. Agnew.——The paving of La Salle St. has been recommended at cost of $128,000.——The following paving contracts have been let: West 19th St., asphalt, $63,500; West Adams St., asphalt, $28,891; Elm St., asphalt, $11,590; West Monroe St., granite, $37,582; West 23d St., asphalt, $33,519; Honore St., asphalt, $7,946; Vine St., $8,700.

LA GRANGE, ILL.—Bids are asked until June 13 for constructing 12,000 sq. ft. cement sidewalk. J. A. Dillon, Village Clk., 422 North Catherine Ave.

BURLINGTON, IA.—Bids are asked until June 15 for 3,300 sq. yds. paving and 1,500 ft. curbing and gutter on Arch St. Enmet Steece, Cy. Engr. (See advertising columns.)

DES MOINES, IA.—Council has ordered 39th St. paved with brick.

MARSHALLTOWN, IA.—Various streets will be paved with asphalt.

DULUTH, MINN.—Ogden Ave. will be paved with macadam.——$90,000 will be spent on street improvements.

ST. PAUL, MINN.—The Barber Asphalt Co. received contract for paving University Ave. at $67,450.

KANSAS CITY, MO.—The following paving contracts have been let to the Barber Asphalt Co.: 43d St., $6,081; 31st St., $18,621; 35th St., $4,936; 39th St., $17,668; Alley south of 12th St., $510, and Vine St., $10,061.

HELENA, ARK.—Cherry St. will be paved with brick at cost of $50,000. Maj. James A. Tappan is Comr.

LOCKHART, TEX.—The question of issuing $100,000 in road improvement bonds will be decided June 20.

WYNNEWOOD, I. T.—The citizens of this place have raised $5,000 to spend on country roads.

BESSEMER, COLO.—E. W. Hathaway, Cy. Engr., writes us that about 14,000 sq. yds. of Warren's bituminous macadam will be required for paving Northern Ave.

SEATTLE, WASH.—Barber Asphalt Co. received contract for paving First Ave. with asphalt, at $106,965.

GRASS VALLEY, CAL.—Paving of Mill St. discussed.

LOS ANGELES, CAL.—Petitions in circulation for paving Central Ave. with asphalt.

HAMILTON, ONT.—The by-law to raise $100,000 for improving streets and roads, water system and to build a bridge has been carried. T. Beasley is Cy. Clk.

NORTH SYDNEY, N. S.—$120,000 will be spent on streets, buildings and extension of water system.

WINNIPEG, MAN.—Bids are asked for constructing granolithic sidewalks and macadam roads; cost, $11,151; also furnishing sewer piper, $7,373, and constructing sewers, $4,848. Asphalt and macadam pavements will be constructed at cost of $14,132 and granolithic sidewalks, $18,608.

BONDS.—Bids are asked until June 26 by Shreveport, La., for purchasing $188,000 street improvement bonds.——Helena, Ark., will issue paving bonds. Maj. Purvis, Engr.——$15,000 will be issued in bonds by Atlantic City, N. J.——Hartford, Wis., will issue $12,000 to pave Main St.

GARBAGE DISPOSAL—STREET CLEANING

NEW YORK, N. Y.—Contract for garbage crematory at Fort Slocum let to Municipal Engineering Co. for $3,865.

NEW ORLEANS, LA.—St. Bernard Rendering & Fertilizing Co. has asked for franchise to establish plant in rear of city.

MEMPHIS, TENN.—City is experimenting with hand sweepers for cleaning asphalt pavements. J. A. Omberg, Jr., City Engr.

MARIETTA, O.—City may readvertise for bids for garbage disposal.

TERRE HAUTE, IND.—Board Public Works will receive bids until June 10 for collection and removal of garbage.

TOPEKA, KAN.—Matter of street sweeping is being considered by street commissioners.

MANUFACTURING PLANTS.

(For foreign manufacturing plants, see under "Mexico," and "Foreign Contracts and Export News.")

LACONIA, N. H.—Reported that hosiery mills and factory operated by the Bouley Co., and recently destroyed by fire, will not be rebuilt.

EAST BRIDGEWATER, MASS.—Pattern shop, Old Colony Foundry Co., destroyed by recent fire.

SOUTH MANCHESTER, CONN.—Contract for addition to machine shop of Cheney Bros., silk manufacturers, was let to Watson Tryon & Son, Hartford, Conn. The contract for 50 × 60 ft. addition to dye house was let to Beattie & Wilcox, Fall River, Mass.

BUFFALO, N. Y.—Buffalo Milk Co. will let contract for new dairy on Niagara St.

RIVERTON, N. J.—Creery Leather Co., 405 Arch St., Philadelphia, Pa., will erect leather manufacturing plant at this place.

TRENTON, N. J.—John T. Boyd & Co., 44 Esher St., will erect brick and steel 60 × 300 ft. foundry building.

ALLEGHENY, PA.—Packing house, C. Dietrich & Sons, reported damaged by fire, to extent $100,000.

CHESTER, PA.—U. S. Charcoal Co., P. A. Marvel, 509 Betz Bldg., Philadelphia, Pa., contemplate erection of 1-story, brick and steel, 75 × 200 ft. building here.

NEW CASTLE, PA.—Reported that Buffalo, Rochester & Pittsburg R. R. is interested in erection of steel mill at this place.

NORRISTOWN, PA.—Merchants Ice Co. contemplate making addition to their cold-storage plant.

PHILADELPHIA, PA.—Fire damaged plant of Keystone Shovel Works, Randolph and Locust Sts., to extent of about $50,000.

PHILADELPHIA, PA.—Geo. W. Beabon Co., 34 N. 5th St., have received estimates for 4-story 50 × 145 ft. brick building.

PITTSBURG, PA.—River & Rail Terminal Co. will purchase Oliver-Roberts Wire and Nail Mill from American Steel & Wire Co. On the mill site will be erected 23 6-story warehouses at cost of $2,000,000. The wire and nail plant will be removed in August to Donora.

SHARON, PA.—Damascus Brake Beam Co. has let contract for 240 × 60 ft. factory, to be done within 30 days.

SOUTH WILKESBARRE, PA.—Wm. F. Koelle & Co., Engrs., Heed Bldg., Philadelphia, are making plans for brick and steel fireproof 4-story, 280 × 50 ft. brewery for Polish Lithuanian Brewing Co.

TAMAQUA, PA.—Tamaqua Liquor League, A. F. Pabb, will erect 4-story fireproof brick and steel brewery here, to cost $60,000.

WEST BRIDGEWATER, PA.—Steel mill to be erected here. John Reeves, Beaver Falls, Pa., is interested.

WILLIAMSPORT, PA.—Plans for brick and steel 4-story fireproof brewery for John Walker are being made by Wm. F. Koelle & Co., Heed Bldg., Philadelphia.

BALTIMORE, MD.—Pollock Fertilizer Co., R. H. Pollock, Pres., will erect 2-story brick fertilizer factory and a 100 × 150 ft. frame storage building.

CHESTERFIELD, VA.—Cereal food manufactory projected.

FREDERICKSBURG, VA.—Contract for erecting new building at John G. Hurkamp tannery and extract works let to Geo. W. Wroten.

SHINNSTON, W. VA.—A two 12-pot glass factory may be erected here.

FAIRMONT, W. VA.—Fairmont Steel & Iron Co. will erect steel mill here and will manufacture small steel rails for coal mines. Levi B. Harr is interested.

CENTRAL, S. C.—We are informed that plans are now being made for plant of Issaquenna Mills at this place. O. A. Robbins, Charlotte, N. C., is Arch. D. K. Norris, Supt.

CLINTON, S. C.—Clinton Cotton Mill will put in new 40,000-spindle mill this summer. The Lydia Mill will also be enlarged.

AMERICUS, GA.—E. D. Ansley, Mgr., writes us that brick and iron, 1½-story ice plant is to be erected at a cost of $5,000. The equipment will cost $20,000 and will be furnished, with the exception of dynamos and motors, by Henry Vogt Manufacturing Co.

ATLANTA, GA.—Southern Railway Co. will build its shops on McDaniel St., at cost of $60,000.——Contract for constructing 4-story, 150 × 250-ft. building for Fulton Bag & Cotton Mills Co., let to William Benson & Co. The building will cost $165,000. Contract for power plant already let.

ATLANTA, GA.—Among the principal structures destroyed by the cyclone which visited this section of the state on June 1 were the Gainesville Cotton Mills, the City Electric Co.'s power house, the City Hotel and the four principal stores. The cotton mill, a 3-story building, was almost completely demolished.

GREENSBORO, GA.—Knitting mill proposed.

MOULTRIE, GA.—Two $20,000 oil mills are being put in here by S. E. Nace and J. E. Coleman.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited

SAVANNAH, GA.—Jas. F. Murphy Co., Ltd., Philadelphia, Pa., makers of oils and by-products of rosin, may locate in this city.

BIRMINGHAM, ALA.—Alabama Chemical Co., J. W. Huger, will erect $300,000 fertilizer plant at Irmadale.

GADSDEN, ALA.—Birmingham Boiler Works, D. L. Fields, Supt., will build branch plant here.

CHATTANOOGA, TENN.—Wool Extract & Merino Co. will erect 3-story brick addition to cost $19,000.

HUNTSVILLE, TENN.—Contract for building 150-ft. addition to plant of Madison Manufacturing Co. let to Flint Construction Co.

KNOXVILLE, TENN.—Scott Patent Brick Car Co. will erect plant in this city. Alexander McMillan said to be interested.

NASHVILLE, TENN.—Stated that a packing house and stockyard to cover 30 acres is to be erected here. Wm. K. Phillips is stated to be interested.

OWENSBURG, KY.—Proposed to manufacture automobiles here. Dr. J. H. Hickman is head of company.

AKRON, O.—Plant of Akron Engineering Co., C. A. Stovers, Pres., will be enlarged.

BELLAIRE, O.—Strong Enamel & Stamping Co., Thos. L. Strong, Gen. Mgr., will build corrugated iron building, 150 x 280 ft.

COLUMBUS, O.—The Ohio Portland Cement Co. will proceed at once with the erection of their cement plant. The Osborn Engineering Co., Cleveland, O., are Engrs.

FOSTORIA, O.—Atlas Safe Co. propose to increase capacity of plant.

MANSFIELD, O.—Ideal Electric & Manufacturing Co., C. A. Voegele, Pres., will erect plant here.

LAFAYETTE, IND.—J. W. Dwiggins, Kokomo, Ind., will establish plant for manufacture of wire fence.

WASHINGTON, IND.—The Commercial Club has announced that two factories are to be erected here.

DETROIT, MICH.—New automobile factory will be erected on Concord Ave. for H. B. Joy and others.

DETROIT, MICH.—Detroit Sulphite Fibre Co. will erect stone, brick and steel structure, to replace building recently burned.

MANCHESTER, MICH.—Contract for construcing plant of Toledo Portland Cement Co. at this place has been let to Forest City Steel & Iron Co., Cleveland, O.

RHINELANDER, WIS.—C. B. Pride, Arch., Appleton, Wis., will make plans for paper and pulp mill to be erected at cost of $700,000.

ST. PAUL, MINN.—Stated that the Waterous Engine Co., whose plant was destroyed by fire, causing a loss of $75,000, will rebuilt its works. Walter Holmes is Secy.

KANSAS CITY, MO.—The high water and winds which prevailed for several days have brought the loss to property in this city up to $15,000,000. The packing houses of Schwarzschild & Sulzberger, Swift & Co. and Cudahy, the manufacturing plants of Peet Bros. and H. N. Straight, and the Morris Rendering Works have suffered severely from the catastrophe.

CENTER, TEX.—Contract for a $30,000 oil mill plant here has been let to Cordwell Oil Machine Co., Richmond, Va.

SEATTLE, WASH.—Seattle Iron & Steel Co. will erect 150-ton blast furnace.

SPOKANE, WASH.—The Inland Empire Milling Co. will double the capacity of its plant and increase the capacity to about 500 bbls. daily.

NORTH BEACH, ORE.—A saw mill of 75,000 ft. daily capacity will be erected here.

IONE, ORE.—J. J. Cleland and V. A. Billion, Portland, Ore., are considering erecting flouring mill at this place.

SAN FRANCISCO, CAL.—Reported that plant of Legallet-Hellwig Tanning Co. was destroyed by fire; loss $200,000. A. Legallet, 3432 25th St., was one of the firm.

PHOENIX ARIZ.—Contract for foundation for beet sugar factory for American Supply & Construction Co., Theodore Hapke, Supt., has been let to Fifield & Gallegher.

RENO, NEV.—$25,000 woollen mill proposed.

MONTREAL, QUE.—Brass foundry Robt. Mitchell & Co. was damaged by fire; loss, $150,000.

TORONTO, ONT.—Contract for 5-story brick, 64 x 248 ft., carpet factory for Toronto Carpet Mfg. Co., has been let to Wm. Steel & Sons, 16th and Arch Sts., Philadelphia, Pa.

MISCELLANEOUS CONTRACTS.

(For foreign miscellaneous contracts see under "Mexico," and "Foreign Contracts and Export News.")

PARKS.—Manchester, Mass.—$19,300 appropriated for parks.

CIVIC TELEPHONE.—St. John, N. B.—Board of works favors civic telephone system.

DIKES.—Watkins, N. Y.—State appropriates $10,000 for improving Chemung River dikes.

DRY DOCK.—Montreal, Que.—$250,000 is available for a government dry dock at this city.

DREDGING.—Milford, Conn.—Surveys preparatory to dredging Milford harbor are being made.

CANAL.—Portland, Ore.—Cost of a proposed canal, locks and dams above the Dalles is placed at $2,147,333.

RIVER WORK.—Madison, Wis.—$20,000 state appropriation made for work on Wisconsin River near Portage.

STAMP MILL.—Boise, Idaho.—Thunder Mountain Gold Mining Co. will install ten-stamp mill in Elk City district.

HOISTING PLANT.—Douglas, Ariz.—Providencia Gold & Silver Mining Co. contemplate erection of hoisting plant.

FIRE EQUIPMENT.—Redlands, Cal.—Bond issue suggested for improving fire department service and equipment.

SMELTER.—Spokane, Wash.—Boston capitalists are considering the investment of $400,000 for smelter at this place.

LEVEE.—Hannibal, Mo.—O. C. Hendren, Comr., will report on building levee along Mississippi River, north of Hannibal.

SMELTER.—El Paso, Tex.—Cataline Copper Mining Co., F. M. Hartman, Mgr., will put in smelter, jump hoist and drills.

CONDUIT.—Montreal, Que.—By-law to be brought before council for building general conduit; cost would be $2,000,000.

CANAL BOATS.—Springfield, O.—The Cincinnati & Toledo Packet Co. is to build five gasoline canal boats for canal transportation work. Each boat is to be 81½ ft. long with 14 ft. beam, and will have 50-HP. gasoline engines; cost will be about $10,000 each.

MINING MILL.—Socono, N. M.—A. B. Fitch and C. T. Brown will erect 50-ton mill for Graphic mine in Magdalena district.

MINING WORK.—Jerome, Ariz.—Extensive improvements to be made to United Verde mine owned by Senator W. A. Clark.

TRAMWAY.—Rossland, B. C.—Bids are soon to be called for tramway, to handle 300 tons of ore a day for the Kootenai mines.

MINING PLANT.—Estes City, N. Mex.—Sunflower Mining Co., David Sanders, Mgr., is considering erection of plant to treat ores.

RIPRAP WALL.—Michigan.—Contract for riprap wall at Fort Wayne, Mich., was let to D. H. Hayes & Co., Chicago, Ill., for $3,042.

DREDGING.—San Francisco, Cal.—Petaluma Creek is to be dredged soon. Frank D. Ryan, Sacramento, Cal., is State Comr. Pub. Wks.

TELEPHONE SYSTEM.—Austin, Minn.—Contract for putting in telephone system here let to J. B. Taylor, La Crosse, Wis., for $40,000.

DREDGING, ETC.—Albany, N. Y.—$25,000 appropriated for cleaning out Albany Basin and dredging channel. Walter Melins is Cy. Engr.

TELEPHONE PLANT.—San Francisco, Cal.—Stated that the Pacific States Telephone & Telegraph Co. will improve its plant at a cost of $1,500,000.

SMELTER.—Phoenix, Ariz.—The Cionegutta Copper Co. may erect 300-tin matte smelter with Bessemer converters. Dr. J. M. Ford is Director.

DREDGE.—Portland, Ore.—Contract for government dredge boat at Lewiston, Idaho, was let to Featherstone Foundry Co., Chicago, Ill., for $35,000.

TRAINING SHIP.—Washington, D. C.—Plans for a wooden training ship, to cost $50,000, for the Portsmouth, N. H., Navy Yard, have been completed.

MINING DEVELOPMENT.—Boise, Idaho.—Stated that nearly $250,000 is to be spent this year in development work in Thunder Mountain and Big Creek.

FILLING.—Westerly, R. I.—Contract for filling in 12-acre marsh for parade ground at Fort Mansfield was let to D. B. Pierce, Jr., Co., Bridgeport, Conn.

BARGES.—Memphis, Tenn.—Bids are asked until July 1 for constructing 12 material barges. Capt. Chas. L. Potter, U. S. Engrs. (See advertising columns.)

GRADE CROSSING ABOLISHMENT.—Schenectady, N. Y.—$75,000 appropriated for state's share of preliminary work of abolishing grade crossings in this city.

RIVER IMPROVEMENT.—Chicago, Ill.—Drainage board has adopted plans for improving Chicago River between Lake and Van Buren Sts. at cost of $2,000,000.

MINING MACHINERY.—Colton, Cal.—Stated that Westside Marble Co. (quarries located at Nine Mile Mountain) will soon install $100,000 worth of machinery.

TELEPHONE EXTENSION.—Minneapolis, Minn.—Twin City Telephone Co., E. H. Houlton, Pres., is planning extending its lines in North Dakota, Minnesota and Wisconsin.

FIRE ENGINE BOILERS.—Chicago, Ill.—Bids are asked until June 9 for furnishing fire department with six boilers for steam fire engines. W. H. Musham, Fire Marshal.

MAIL TUBE.—Chicago, Ill.—A 20-year franchise has been granted Chicago Postal Pneumatic Tube Co. for laying and operating pneumatic tubes. Allan C. Durborow is interested.

PIER.—Washington, D. C.—Bids are asked by Bureau Yards and Docks, until June 26 for constructing coaling pier at League Island Navy Yard; $47,000 available. M. T. Endicott, Ch. Bureau.

CULVERTS.—St. Stephens, N. B.—Contract for constructing culverts between St. John and Megantic and on Woodstock branch for C. P. R. R. was let to Joseph McVey for about $30,000.

PARKS, ETC.—Kansas City, Mo.—Special commission will recommend issue of $1,825,000 of bonds, $500,000 of which is for parks and $100,000 for public improvements, including fire-alarm system.

COAL WASHING PLANT.—Spokane, Wash.—Deeks & Deeks have the contract for constructing a coal washing plant at Chestnut, Mont., for the Northern Pacific R. R., to cost about $50,000.

WHARF AND WAREHOUSE.—Chester, Pa.—Contract for a wharf and warehouse for the Fayette Mfg. Co. has been let to Armstrong & Verintzenhoff, Land Title Bldg., Philadelphia, for about $50,000.

DRY DOCK.—St. John, N. B.—Louis Coste, C. E., Montreal, Que., is making plans for a dry dock to be erected here for Imperial Dock Co., Geo. Robertson, M. P. P., Pres. The dock is to be 650 ft. long.

TUNNEL.—New York, N. Y.—Rapid Transit Commissioners have been considering application from Hudson & Manhattan R. R. Co. for leave to construct another tunnel from New York to Jersey City.

TUNNEL.—Denver, Colo.—Plans have been completed for the tunnel through the continental divide for the Moffat Road. It is to be 2½ miles long, bored through granite and will cost about $1,125,000.

COAL PLANT EXTENSION.—Washington, D. C.—Bids are asked by Bureau of Equipment until July 15 for extending coaling depot at Bradford, R. I. R. B. Bradford, Ch. Bureau. (See advertising columns.)

LEVEE WORK.—West Memphis, Ark.—Bids are asked until July 1 for about 2,837,000 cu. yds. of levee work. H. N. Pharr, Ch. Engr., Randolph Bldg., Memphis, Tenn.; O. N. Killough, Pres., St. Francis Levee Bd.

RIVER IMPROVEMENTS.—Boise, Idaho.—The Idaho River Improvement Co. proposes to improve Clearwater River to furnish outlet for lumber lands. Mills and tramways will be erected. Company has $1,000,000 capital.

GUNS.—Washington, D. C.—U. S. Bureau of Ordnance has let contracts to the Midvale Steel Co., for 24 8-in. nickel-steel guns and to the Bethlehem Steel Co. for 36 7-in. nickel-steel guns. Contracts involve about $1,000,000.

WHARF WORK.—New London, Conn.—The following bids were received May 26 by the light-house engineer, Tompkinsville, N. Y., for repairing and extending buoy depot wharf: The T. A. Scott Co., New London, Conn., $12,500; Henry H. Morgan, New London, Conn., $10,490; H. M. Conklin, Port Richmond, N. Y., $11,340.

U. S. POSSESSIONS AND CUBA.

BUILDING.—Manila, P. I.—Rev. Henry R. Talbot, of the Philippine Episcopal diocese, is in Boston, Mass., to raise a fund for erecting an American club house in Manila. Already $25,000 has been subscribed.

WATER SYSTEM.—Alaska.—Bids are wanted by Capt. W. P. Richardson, Construct. Q. M., Skagway, until June 13, for constructing a water distributing system, sewer system, roads and walks and for grading the site of the army post of Portage Cove, Haines, Alaska.

MEXICO.

ICE PLANT.—Altar, Sonora—Morican Bros. are reported about to let contracts for an ice plant.

ICE PLANT.—Monclova.—Stated that Cecilio Pinz will soon begin erection of an ice plant here.

GAS ENGINE.—Velardena.—A 2,000-HP. gas engine plant will be installed here by the Velardena Mining & Smelter Co.

HOSPITAL.—Monterey.—Plans for the St. Vincent de Paul hospital have been prepared by Arch. Pacfirio Trevino Arriola.

ELECTRIC TRACTION.—Merida.—Street railway company contemplates substituting electric traction for present mules system.

PLANT.—Chihuahua.—The State government has granted a concession to Juan Creel, of this city, for establishing plant to manufacture sulphate of copper.

BUILDING.—City of Mexico.—The Bank of London and Mexico contemplate new office building, its bank occupying the lower floor.

CAR LINE.—State of Coahuila has granted a concession to Rafael Davila and Salvador Cardenas for the construction of mule road from the Allende station, to Zaragoza, touching Morelos and Allende.

RAILWAY.—Monterey.—Both the Mexican Central and the National R. R. Co. of Mexico have run surveys into the Cerralvo mining camp. Mexican Central's proposed branch line to that place runs from San Juan.

STOCKYARDS.—City of Mexico.—It is stated that W. J. Alexander, who, through James P. Taylor, obtained a concession from the Government for establishing stockyards here, will expend $300,000 in the enterprise.

STREET RAILWAY.—Mazatlan.—Aruro de Cima has petitioned the city council for a concession for establishing a street car system and a line to his farm near Loma Atravezada, and also to the projected cemetery.

ELECTRIC RAILWAY.—Durango.—Preliminary survey for the proposed electric railroad from this city to San Dimas, it is reported, will soon be completed. J. T. Dennis, American, promoter, is now in the U. S. making financial arrangements.

COAL FIELDS DEVELOPMENT.—Patzcuaro, State of Michoacan.—Extensive coal fields have been discovered near here. It is said that steps are being taken looking to their development. W. H. Ryan, City of Mexico, can probably give information.

SUGAR MILL.—San Juan Bautista.—Extensive improvements, including sugar mill, will be made on the property of Santa Teresa, in the Cardenas municipality, this state, which was recently purchased as a location for a Mormon colony. Manuel F. Briseno, of San Juan Bautista, can give information.

BRIDGE WORK.—Monterey.—It is reported that it will take more than three years for the Mexican Central R. R. to complete the structural improvement work that is now in progress on its Gulf division. There are more than 800 bridges on this division which are to be repaired or rebuilt. L. Kingman is Ch. Engr., Mexico City.

SMELTER.—Matehuala.—Reported that the Metallurgical Co., of this place, will immediately erect a smelter here costing $1,000,000. It will have two lead and three copper furnaces, representing a daily capacity of 500 tons. Site acquired and preliminary surveying done by Capt. Nat Turner, of Monterey. H. N. Nichols, Chicago, Ill., is President of the company, which is composed principally of Chicago and Pittsburg men.

SUGAR REFINERIES.—Topolobampo.—Under this heading a note was made in our issue of May 14 in which W. H. Masters, of New Orleans, La., was mentioned as interested in an enterprise, of which Zacarias Ochoa, Topolabampo, is the promoter, calling for the erection of sugar refineries in Mexico. Mr. Masters, who is Asst. Traffic Mgr. Southern Pacific Co., at New Orleans, has since advised us that he has no connection whatever with such a project.

TIMBER LANDS.—A contract is reported to have just been made by an American syndicate for acquiring title to a vast tract of timber lands in the State of Chihuahua, comprising nearly 2,500,000 acres, and heavily wooded with white pine, yellow pine, "blackjack" pine and cedar. To make the timber available for the market it will be necessary to build about 60 miles of railway from Terregas. An exploring party will soon take the field to make further developments. Among those reported interested are Paul Morton, Vice-Pres. A. T. & S. Fe Ry.; Walter S. Eddy, Saginaw, Mich., and Col. John Weir, New York.

RAILWAYS.—G. H. Freeman holds a concession for a railway from Alamos to Ibaros, on the Pacific Coast. Mr. Freeman may be addressed at Hermosillo, Estado de Sonora.——The governor of the State of Chiapas is endeavoring to form a local company to build a railway from Tapachula to the Pacific port of San Benito, about 50 kilometers, near the Guatamala boundary.——The Compañia Minera de Naica, State of Chihuahua, is preparing to build a railway from a point on the Mexican Central Ry. to its mines at Naica, about 20 miles.——The Descubidora Mining Co. is projecting a railway from its mines to Indé, 50 miles. David Gough is Pres.——A. Gonzales and J. G. Junin have a railway concession, from Huisache to Jicotencatl, in the State of Tamalipas.——Frank Husted, of Terrenates Consolidated Mining Co., of Parral, was in Chihuahua this week acquiring concessions to build a branch railroad from Minas Nuevas to mines of the company, a distance of 3½ kilometers. Road is to be broad gage and will have a third rail. Machinery purchased in New York. Work on the new power house near the mines is in progress.

FOREIGN CONTRACTS—EXPORT NEWS.

ELECTRIC TRAMWAYS.—India.—Electric tramways are planned for Nippur; contracts for building will likely go to local contractors.

RAILWAY.—Gloucester, Eng.—Bids are asked until June 16 for constructing complete the city light railways system. Geo. S. Blakeway, Town Clk. Alfred Dickinson & Co., Birmingham, Engrs.

RAILWAY.—Belgium.—Bids will be received by the "Societe Nationaldes Chemins de Fer Vicinaux," 14 Rue de la Science, Brussels, until June 17, for constructing the line from Vassem to Weert Saint George; estimated cost, $48,660.

PUBLIC WORKS.—Natal, South Africa.—A bill will be introduced in the Natal Parliament empowering the government to raise a loan of $20,000,000 for public works, including railways and their equipment, harbor works and telegraphs.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ELECTRIC TRACTION.—Manchester, Eng.—It is said that an electric traction system will be built connecting the principal railway stations of the city. About 2½ miles of road is planned and a greater part of it will be underground; estimated cost, $3,750,000.

ELECTRIC TRACTION.—Lancashire, Eng.—The contract for the overhead equipment of the Fairfield section of the Bury, Lancashire, municipal electric traction system, has been let to Macartney, McElroy & Co., which has offices in the Havemeyer Bldg., New York.

CAST-IRON PIPE.—Bridgewater, Eng.—Bids are asked until June 23 for supplying 2,700 tons of c.-i. pipe from 8 to 2-in. in diameter, and other castings, with sluice valves, air valves, stand-pipes, hydrants and boxes; also for laying about 40 miles of pipe. T. M. Reed, Clk. Council.

AGRICULTURAL MACHINERY.—Argentina.—Frederico Graeff, of Hasenclever & Co., Buenos Ayres, is now in New York. It is said that he will place large contracts for agricultural machinery intended for the Argentine government while in this country. While in New York he will stop at the Hotel Belvidere.

WATER SUPPLY.—Dublin, Ire.—Bids are asked until June 16 for constructing works for extending the water supply to the Portrane Asylum, comprising a reservoir of 1,400,000 gals. capacity, softening plant, tanks and filters; steel water tower of 100,000 gals. capacity, and supplying and laying 14,400 yds. of c.-i. pipe. W. J. Murphy, Ch. Clk.

AGRICULTURAL MACHINERY.—Spain.—The Diputacion Provincial (County Council) has placed itself at the head of a movement for enabling farmers in the Basque provinces to acquire modern farming implements at cost price. A depot will probably be established at Bilbao, and articles such as harrows, plows, root cutters, hand winnowers, etc., will be handled.

CONTRACT PRICES.

[Where (*) precedes items under Contract Prices the work was advertised in Engineering News.]

ROAD.—Ashland, N. H.—Following bids recently received for concrete road: (1) earth excavation; (2) concrete; (3) drain; (4) paving: (1) D. D. Tilton, Woodsville, N. H., (1) 35 cts., (2) $1.85, (3) 50 cts., (4) $1. Osgood Construction Co., Nashua, (1) 40 cts., (2) $1.795, (3) 50 cts., (4) 84 cts. Rabin Construction Co., Manchester, (1) 35 cts., (2) $1.80, (3) 25 cts., (4) 85 cts. (awarded contract).

FILLING.—Boston, Mass.—The Cambridge Park Commissioners received the following bids on May 18 for filling the Charles River esplanade between Brookline St. and Harvard Bridge: Brassel & Barry, 25,000 yds. at 50 cts. per yd.; T. F. Cummings, 50,000 yds., 58 cts.; C. Frederickson, 10,000 yds., 48 cts.; John T. Scully & Bro., 50,000 yds., 54 cts.; W. B. Mullen, 50,000 yds., 50 cts.; Easton Dredging Co., 50,000 yds., 54 cts.; Jeremiah Sullivan, 10,000 yds., 65 cts.

STREET LIGHTING.—Oakland, Cal.—Frank R. Thompson, Cy. Clk., writes us that the following bids were received on May 25 for lighting the streets and public buildings of Oakland: Oakland Gas Light & Heat Co., $7.25 per lamp per month for about 726 street lamps; 5 cts. per 1,000 watts, meter measurement, incandescent lamps for public buildings; gas lamps for public buildings, 90 cts. per 1,000 ft. Street lights of 2,000 c. p. each to be lit all night and every night, except nights preceding, during and immediately following full moon.

WATER PIPE.—Washington, D. C.—W. A. McFarland, Supt. Water Dept., received the following bids May 23 for furnishing 600 tons of 20-in. c.-i. water pipe: Reading Foundry Co., Reading, Pa., $30.80 per ton; Dimmick Pipe Co., Birmingham, Ala., $33.98; Camden Iron Works, Philadelphia, $35.90 and $35.10; Drew Machinery Co., Manchester, N. H., $37.11.

* ROCK EXCAVATION.—Boston, Mass.—Lt.-Col. W. S. Stanton, U. S. Engrs., 25 Pemberton Square, received the following bids May 26 for rock excavation in Boston Harbor: Daly & Hannan Dredging Co., Ogdensburg, N. Y., upper channel, $19.23; lower channel, $30; Eastern Dredging Co., Boston, upper channel, $18.80; lower channel, $23.80.

SEA WALL.—Philadelphia, Pa.—The following bids were received by the Bureau of Yards and Docks on May 29 for constructing a sea wall west of the new dry dock, League Island Navy Yard: Snare & Triest, New York, $87.99; 8 months; American Paving & Construction Co., Philadelphia, $84.

*CEMENT, SAND, ETC.—Washington, D. C.—The following bids were received April 30 for supplying Portland and natural cement, sand, gravel and constructing roads and water supply system at Washington Barracks: (1) Portland cement, per bbl.: B. Wallis & Co., Baltimore, Md., (1) $2.40; National Mortar Co., Washington, Portland, $1.89; natural, 87 cts.; Atlas Portland Cement Co., New York, $1.97; Cranford Paving Co., Washington, Portland, $2.45; Columbia National Sand & Dredging Co., Washington, building sand, concrete or grading, $1.25. (For other bids see under Streets and Roads and Water Supply and Irrigation.)

WATER-WORKS—Greene, N. Y.—Edgar B. Kay, Engr., Ithaca, informs us that the following bids were received May 19 for constructing a gravity water-works; American Spiral Pipe Works bid 24¾ cts. per ft. for 4,000 ft. of 6-in. asphalt-coated spiral pipe; the bid of the Eddy Valve Co. accepted; the Darling Pump & Mfg. Co. (who bid on Excelsior hydrants) also bid $22 each for gate hydrants, $18 for Achme, and $23.75 on Peerless hydrants:

* BRICK PAVEMENT.—Sandy Hill, N. Y.—Orson E. Richards, Engr. of Pavement, Masonic Temple Bldg., received bids as follows on May 28 for laying about 30,000 sq. yds. of brick pavement; all bids rejected, except that of Flood & Sherrill, and that is now under consideration. The specifications will be modified to provide for 6 x 21-in. cement curb and using in the pavement Shields cement in the concrete; Flood & Sherrill, whose bids for these items were 50 cts. per lin. ft., and 98 cts. per sq. yd. respectively, will probably receive the entire contract, the total being $47,074:

Bids Received at Sandy Hill, N. Y., May 28, 1903, for Laying Brick Pavement.

Bidder.	Excavation, 17,000 yds.	Curbing, 15,000 ft.	Pavement, 30,000 yds.	6-in. sewer, 420 ft.	Catch-basin, 12 each.	Water taps, 22 each.	¾-in. water pipe, 400 ft.	Water taps, 90 each.	1-in. gas pipe, 1,900 ft.	Total.
McCaghey & Linehan, Little Falls, N.Y.	$0.73	$1.65	$1.47	$0.35	$50.00	$6.00	$0.50	$2.00	$0.30	$83,119
Mulderry Bros., Albany, N. Y.	.38	1.34	.98	.63	70.00	3.00	.50	1.50	.25	57,971
Thomas Fitzgerald, Fredonia, N. Y.	.38	1.60	1.30	1.00	50.00	4.00	.50	3.00	.20	71,448
Frank E. Gibson, Sandy Hill, N. Y.	.45	1.30	1.20	.50	50.00	1.00	.20	1.00	.20	64,544
Flood & Sherrill, Sandy Hill, N. Y.	.50	1.20	1.15	.00	60.00	1.00	.25	1.00	.25	62,674

* ROCK EXCAVATION.—New York, N. Y.—Bids were received as follows on May 25 for dredging and rock removal in the East River; Col. Amos Stickney, U. S. Engrs.: International Contracting Co., Whitehall Bldg., Sheel Reef, excavation of ledge rock, $45 per ton; other material, $2; R. G. Packard Co., 130 Pearl St., ledge rock, $17.50; other material, $1.55; pot rock, to depth of 25 ft. below low water, $15,000. No bids for Middle Reef.

SINKING WELLS.—Fort D. A. Russell, Wyo.—Capt. W. V. Scott, Q. M., Cheyenne, informs us that a contract has been let to Elkstrom & Carlstrum, Pine Bluff, Wyo., for sinking tubular wells at $1.80 per ft.; $5 per ft. for Cook strainer, and $48 per day of 24 hours for additional test.

R. I., 29 20-in. Venturi meters, $280 each; castings and metal parts for 72-in. meter, lump sum $850; for 54-in. meter, $700; register for 72-in. meter, $680; for 50-in., $680; B. F. Sturtevant Co., Philadelphia, Pa., two economizers, $6,325; Jersey Foundry & Machine Co., New York, 533 orifice plates, $2.80 each. Pumping engines: (1) three pumping engines complete, sand-wash water pumps, (3) two pumping engines complete, (4) four boilers, (5) four mechanical stokers, (6) two economizers (7) totals: Babcock & Wilcox Co., New York, (4) $3,660 each, (5) $1,035, (6) $2,523, (7) $23,983; Oil City Boiler Works, New York, (4) $3,100, (5) $1,065, (6) $2,775, (7) $22,210; American Stoker Co. (5) $975; The Stirling Co., Chicago, (4) $3,304, (5) $995, (6) $2,562, (7) $22,320; Heine Safety Boiler Co., New York, lump sum, (4) $13,082, (5) $3,955, (6) $5,850, (7) $22,907; Marine Engine & Machine Co., New York, (3) $11,300; Henry R. Worthington, New York, (1) $14,000, (3) $4,000, (7) $50,120; Holly Mfg. Co., Buffalo (1) $37,570; D'Olier Engineer Co., Philadelphia, (1) $10,900, (3) $6,600, (4) $2,900, (5) $975, (6) $2,650, (7) $66,700; Camden Iron Works, Philadelphia, (1) A—$11,951, B—$26,599, C—$17,575; (3) $8,159; the Eddy Valve Co. total is $21,144 taking gate valves, and $23,323 when taking sluice gates:

Bids Received at Washington, D. C., May 22, 1903, for Special Castings, Sluice Gates and Gate Valves.

Special Castings.

Quantities.	Wilkinson Mfg. Co., Bridgeport, Pa.	Benj. Eastwood Co., Paterson, N. J.	N. J. Foundry & Machine Co., New York.	J. B. Kendall, Washington, D. C.
Electric light fasteners ..... 13,700 each...	$0.09	$0.085	$0.0895	$0.07
Stop plank guides ..... 70 " ...	4.91	8.75	5.61	8.35
Sewer manhole frames and covers ..... 50 " ...	6.48	12.95	9.20	16.00
Grates and frames for catchbasins ..... 39 " ...	8.10	14.70	10.77	18.30
Filter manhole frames and covers ..... 3,100 " ...	6.05	7.35	6.87	6.55
Filtered water res, manhole frames, etc.. 17 " ...	28.41	32.50	35.80	27.28
Step irons for manholes ..... 500 " ...	.33	.165	.139	.24
Total	$21,620	$26,423	$22,982	$23,976

Sluice Gates and Gate Valves.

Quantities.	Kennedy Valve Mfg. Co., New York.	Lloyd Construction Co., Detroit, Mich.	Ludlow Valve Mfg. Co., Troy, N.Y.	Eddy Valve Co., Waterford, N. Y.	Coffin Valve Co., Boston, Mass.
2½-in. gate valves with screw ends...220 each.	$3.20	$3.85	$4.10	$3.85	$4.85
Same with 1 screw end and 1 hose con 32 "	3.50	4.60	4.10	4.10	4.85
6-in. gate valves, with hub ends.... 43 "	9.50	10.25	11.20	9.50	11.00
Same with hub ends and auto. drips.. 19 "	17.00	15.00	14.20	14.00	23.00
Fire hydrants ..... 2 "	38.00	24.50	35.00	35.00	50.00
10-in. gate valves with hub ends.... 1 "	23.00	24.85	24.00	22.00	26.00
12-in. " " " " " .... 2 "	32.50	36.65	30.40	31.00	33.00
16-in. " " " " " .... 29 "	54.00	62.00	48.60	42.50	52.00
Same with flanged ends, or ..... 46 "	54.50	64.50	57.00	46.00	.....
16-in. sluice gates; necessary changes 46 "	.....	.....	.....	65.00	38.00
20-in. gate valvs with flanged ends or 87 "	91.00	88.00	74.50	80.00	.....
20-in. sluice gates with modifications 87 "	.....	.....	.....	95.00	48.00
24-in. swing sewer gates, spec. cstgs 2 "	.....	92.99	80.00	96.50	73.00
Pressure controller valves ..... 2 "	.....	1,402	1,400	1,500	1,665
Orifice plates .....533 "	2.00	4.58	3.75	2.50	1.90
Valve boxes for 6-in. valves..... 55 "	2.45	1.69	2.00	2.00	3.00
" " 10-in. " ..... 1 "	2.40	1.45	2.00	2.00	3.00
" " 12-in. " ..... 2 "	2.40	1.45	2.00	2.00	3.00
Valve stems:					
For 16-in. valves, 11 ft. long..... 58 ft....	.40	2.96	.35	.30	4.00
" 16-in. " 6 " " ..... 17 "	.50	1.51	.35	.40	3.20
" 20-in. " 4 " " ..... 29 "	.75	1.63	.35	.50	4.00
" 20-in. " 11 " " ..... 58 "	.50	9.63	.35	.32	7.00
Floor nuts for 16-in. valves ..... 46 each.	2.00	1.30	2.50	3.00	1.25
Floor nuts for 20-in. valves ..... 29 "	2.00	1.64	2.50	3.00	1.25
Effluent standards with ind. device.. 29 "	13.00	8.50	8.00	18.50	25.00
Castings to be set in vaulting..... 58 "	2.60	1.25	5.00	3.00	3.00
Castings to support indicator posts.. 58 "	1.75	4.65	7.50	2.50	....
Open-and-shut indicator posts ..... 29 "	14.00	9.00	11.35	18.00	13.00
Graduated indicator posts ..... 29 "	16.00	12.75	11.35	21.00	17.50
Flanged pipe, 2 lengths and 1 cap.....	....	194.00	130.00	132.00	80.00
Socket wrenches for floor nuts..... 14 each.	3.00	3.00	2.00	2.50	3.00
Total	$18,503	$22,778	$21,385	$21,144	$18,910

WATER SUPPLY.—North Hempstead, N.Y.—Monroe S. Wood, Town Clk., Roslyn, informs us the contract for furnishing water supply to the Port Washington district has been let to Nassau Water Co., Glen Cove, at $30 per year each for 40 fire hydrants for five years.

* METERS, ENGINES, BOILERS, ETC.—Washington, D. C.—The following bids were received by Lieut.-Col. A. M. Miller U. S. Engrs., on May 22 for supplying Venturi meters, sluice gates and gate valves, special castings, pumping engines, boilers, stokers, and economizers, for the Washington filtration plant; amount available, $200,000; irregular bids, Builders' Iron Foundry, Providence,

WATER PIPE.—Fort D. A. Russell, Wyo.—The Holme & Allen Pipe & Construction Co., Denver, Colo., received the contract for constructing the new water system here at the following prices: 6-in. pipe, 95 cts. per ft.; 4-in., 65 cts. per ft.; making taps, $3 to $6; stops and water cocks, $2.10 to $7.50; $22.50 each for 6-in. gate valves; $16.50 for 4-in. gate valves and $6.50 each for hydrants.

* CEMENT AND BROKEN STONE.—Norfolk, Va.—Following bids were received May 27 for furnishing Portland cement and broken stone at Fort Ware, Va., (1) Portland cement; (2) broken stone, 2-in. size; (3) 1-in. size: Atlas Portland Cement Co., New York, (1) Atlas, $2.31; National Building Supply Co., Baltimore, Md., (1) Dragon, $2.40; Virginia Portland Cement Co., New York, (1) O. D., $2.30; Chas. G. Smith & Son, Washington, (2) $1.57, (3) $1.57; McClenahan Granite Co., Port Deposit, Md., (2) $1.80, (3) $1.90; Old Dominion Iron & Nail Works Co., Richmond, (2) $2.50, (3) $2.50; B. Wallis & Co., Baltimore, (1) Dragon, $2.50, (2) $2.50, (3) $2.50; General Supply Co., Norfolk, (1) Alson, $2.14, (2) $1.84, (3) $1.89.

Bids Received at Greene, N. Y., on May 19, 1903, for Constructing Gravity Water-Works.

Bidder.	For each: Fire hydrants, 36.	8-in. gate valves, 5.	6-in. gate valves, 7.	4-in. gates, 27.	Valve boxes, 38.	Reservoir.	Receiving chamber.	Furnishing 6" T. C. pipe, 4,000 ft.	Asphalt coated spiral, 4,000 ft.	Pipe laying: 4-in., 17,555 ft.	6-in., 18,445 ft.	8-in., 4,255 ft.	6-in. spiral, 4,000 ft.	6-in. T. cotta, 4,000 ft.	Total.
Troy Public Works Co., Utica, N. Y...	$27.00	$20.00	$15.00	$10.00	$5.00	$3,248	$231.00	$0.11	$0.25	$0.20	$0.22	$0.25	$0.22	$0.22	$16,949
J. J. Seagrist, Utica, N. Y.	22.00	16.00	13.00	7.00	3.00	2,500	500.00	.10	.26	.20	.20	.22	.18	.20	15,362
Buck & Ireland, Binghamton, N. Y....	24.00	17.50	12.50	7.50	4.00	3,400	250.00	.105	.24¾	.17	.21	.22	.15	.15	15,447
F. N. Lewis & Co., Herkimer	23.50	17.00	11.50	7.00	3.00	5,500	575.00	.15	.45	.32	.38	.44	.44	.44	27,608
Bauer & Hyatt, Owego, N. Y.	26.00	18.00	10.00	7.20	3.00	3,652	295.00	...	...	.17½	.22½	.24¾	.39	.29½	16,367
Fritz & Partridge, Scranton, Pa.	.....*	.....*	.....*	...*	....*	2,100	145.00	.10	.24¾	.19	.20	.22	.12	.12	15,813

*Lump bid of $1,257.75. Note.—Bauer & Hyatt's bid for laying 6-in. terra cotta pipe includes furnishing the pipe; their bid for 6-in. spiral, is pipe complete.

Bidder.	Fire hydrants, 36.	8-in. gate valves, 5.	6-in. gate valves, 7.	4-in. gates, 27.	Valve boxes, 38.	Total.
Eddy Valve Co., Waterford, N. Y.	$23.50	$16.00	$10.00	$6.75	$3.75	$1,258
Darling Pump & Mfg. Co., Williamsport, Pa.	20.00	16.50	11.00	6.50	2.85	1,230
Rensselaer Valve Co., Troy, N. Y.	24.00	17.50	12.00	7.25	3.40	1,279
Charles Millar & Son Co., Utica, N. Y.	23.50	17.00	11.50	7.00	3.80	.....
R. D. Wood & Co., Philadelphia, Pa.	22.00	17.00	11.50	7.25	2.75	.....

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ENGINEERING MATERIAL PRICES

TRACK FASTENINGS—

New York quotations at mill—Steel splice bars, 1.75 to 1.80 cts.; spikes, 1.85 to 2 cts.; bolts, square nuts, 2.65 to 2.70 cts.; hexagon nuts, 2.75 to 2.85 cts.

Chicago—At mill.—Steel splice or angle bars, 2 to 2.25 cts.; spikes, 2.10 to 2.25 cts.; bolts, square nuts, 3½ to 3¾ ins. and larger, 2.85 to 3 cts.; hexagon nuts, 3 to 3.25 cts.

RAILS, STEEL—

New York—At mill.—New, $28, heavy; girder, $33 to $33.50; old iron, f. o. b., New York, $22.50 to $23; old steel, f. o. b. New York, $19.50 to $20; relayers, $25 to $27.

Chicago—At mill.—New, $28, standard sections; second quality, $27; light rails, $35 to $40, according to weight; old iron, $23 to $23.50; old steel, mixed lengths, $17 to $17.50; old steel, long lengths, $22 to $22.50; heavy relayers, $31 to $31.50.

Pittsburg—At mill.—Standard sections, $28.

STRUCTURAL MATERIALS—

New York—At tide water.—Beams, 1.75 to 1.95 cts.; channels, 1.75 to 1.95 cts.; tees, 1.80 to 1.85 cts.; angles, 1.75 to 1.85 cts.; zees, 1.75 to 1.95 cts.

Chicago—At mill.—Beams, channels and zees, 15 ins. and under, 1.75 to 1.90 cts.; 18 ins. and over, 1.85 to 2 cts.; tees, 1.80 to 1.90 cts.; angles, 1.75 to 1.90 cts.; at local yards, beams and channels, 2.25 to 2.50 cts.; angles, 2.25 to 2.50 cts.; tees, 2.30 to 2.55 cts.

Pittsburg.—Beams and channels, up to 15 ins., 1.60 cts.; over 15 ins., 1.70 cts.; tees, 1.60; zees, 1.60 cts.; angles, 3 × 2 up to 6 × 6 ins., 1.60 cts.

PLATES AND SHEETS—

New York—At tide water.—Sheared steel, in cargo lots, 1.85 to 2 cts.; tank, 2 cts.; flange, 2.10 cts.; marine, 2.10 to 2.20 cts.; firebox, 2.35 cts. up.

Chicago—F.o.b. Chicago, Universal mill plates, 2 to 2.25 cts.; tank, ¼-in. and heavier, 1.75 to 2 cts.; flange, 1.85 to 2.15 cts.; marine, 1.95 to 2.10 cts.; local stock, f.o.b. Chicago—Tank, 3-16-in., 2.25 to 2.30 cts.; No. 8, 2.30 to 2.40 cts.; flange, 2.40 to 2.50 cts.

Pittsburg, f.o.b.—Universal mill and sheared plates, 1.60 to 1.70 cts.; tank ¼-in. and heavier, 100 ins. wide, 1.60 cts. at mill, Pittsburg; flange and boiler steel, 1.70 cts.; marine ordnance firebox, 1.80 cts.; still bottom, 1.90 cts.; locomotive firebox, 2.10 to 3 cts.; sheets, Nos. 22 and 24, box annealed, 2.45 cts., No. 26, 2.55 cts., No. 27, 2.65 to 2.75 cts.; No. 28, 2.75 to 2.85 cts.

MERCHANT STEEL—

Chicago—At mill.—Machinery, smooth finished, 2.01½ to 2.11½ cts.; tire, smooth finished, 1.96½ to 2.11½ cts.; spring open-hearth, 2.66½ to 2.76½ cts.; tool crucible, ordinary grades, 6 to 8 cts.; specials, 12 cts. up.

Pittsburg—At mill.—Steel bars, 1.60 cts., half extras.

IRON—

Pig Iron:

New York—Northern foundry, No. 1, X, $20 to $21; No. 2 X, $19 to $20; Gray forge, $18.75 to $19.25; Southern foundry, No. 1, $20 to $20.50; No. 2, $19.50 to $20.25; No. 3, $19 to $19.25; No. 4, $18 to $18.75; soft No. 1, $20 to $20.50; No. 2, $19.50 to $20.25.

Chicago—F. o. b. Chicago.—Lake Superior charcoal, $24 to $25; local coke foundry, No. 1, $21 to $22; No. 2, $20 to $21; No. 3, $19 to $20; local Scotch, No. 1, $21.50 to $22.50; Ohio strong softeners, No. 1, $21.50 to $22.50; No. 2, $21.80 to $22.30; Southern Silvery, $21.85 to $23.85; Southern coke, No. 1, $20.35 to $20.85; No. 2, $19.85 to $20.35; No. 3, $19.35 to $19.85; No. 1, soft, $20.10 to $20.60; No. 2, soft, $19.60 to $20.10; foundry forge, $18.85 to $19.35; Southern Gray forge, $18.35 to $18.85; mottled, $18.10 to $18.60; charcoal softeners, $21.85 to $26.85; Alabama and Georgia car wheels, $28.85 to $29.85; malleable Bessemer, $20.30 to $20.80; standard Bessemer, $20.50 to $21; Jackson county and Kentucky Silvery, 6 to 8% silicon, $27.30 to $28.30.

Pittsburg—Basic, $19.50 to $20; Bessemer, in lots from 1,000 to 5,000 tons, $19 to $19.25; at Valley furnace, $19.35; Northern foundry iron, $20.50; Northern Gray forge, $19.75 to $20.

Bar Iron:

New York—Refined, on dock, 1.85 to 2 cts.; common, on dock, 1.75 to 1.90 cts.

Chicago—f. o. b. Chicago, mill shipment, 1.75 to 1.85 cts.; soft, 1.76½ to 1.86½; hoops, 2.16½ to 2.26½ cts.; angles, under 3 ins., 1.86½ to 1.91½ cts., base.

Pittsburg.—1.85 to 1.85 cts., f. o. b. Pittsburg.

GENERAL MATERIALS—

Lead, spot, New York, 4.37½ cts.; St. Louis, 4.15 to 4.17½ cts.

Spelter, New York ,spot to May, 5.75 cts.

Copper, Lake, 14.75 to 15 cts.; electrolytic, 14.75 to 15 cts.; casting, 14.50 to 14.75 cts.

Tin, New York, spot, 30.10 to 30.30 cts.

LUMBER—

New York:

Hemlock, Penn., joists, 12 to 40 ft., $16.50 to $24.50 per M.; boards, 13 to 16 ins., $18 to $19.50.

Yellow pine, random cargoes, sail deliveries, N. Y., $20 to $21; average cargoes, $21.50 to $22.50.

INDUSTRIAL NOTES.

ROGER W. BABSON, Wellesley Hills, Mass., announces that he has inaugurated a statistical department for furnishing news reports regarding proposed bond issues.

THE PLUNGER ELEVATOR CO., 156 Fifth Ave., New York, has closed a contract for two of the latest types of plunger elevators to be installed in the N. Y. Maritime Exchange.

THE B. F. STURTEVANT CO., of Boston, Mass., has designed and installed the entire equipment for the hot-blast system of heating and ventilation for the Hope Mills Mfg. Co., of Hope Mills, N. C.

THE GRATON & KNIGHT MFG. CO., Worcester, Mass., has issued a new booklet giving facts about its Royal Worcester belts which have been used for the past 50 years in factories throughout the country.

THE McKELVEY CONCRETE MACHINERY CO., Security Bldg., Chicago, reports that the Geo. B. Swift Co., of Chicago, is now operating five McKelvey concrete mixers at the new shops of the Chicago, Rock Island & Pacific Ry. at Moline, Ill.

THE STANLEY ELECTRIC MFG. CO., Pittsfield, Mass., has sold 32 38-HP. and 20 50-HP. street railway motors to the Sheboygan (Wis.) Light, Power & Ry. Co. A sale has also recently been made of a 750-KW. engine type railway generator to the Trenton St. Ry. Co.

THE TITUSVILLE IRON CO., Titusville, Pa., recently completed its new boiler shop, 200 × 425 ft., consisting of four 50-ft. bays, each of which is equipped with an electric crane. New tools have been added. R. F. Van Doorn, formerly with the Struthers-Wells Co., of Warren, O., is the General Sales Manager, Titusville, Pa.

THE BETHLEHEM STEEL CO., South Bethlehem, Pa., on May 21 shipped on a Pennsylvania R. R. freight car, 100 ft. long, running on 32 wheels, and with a carrying capacity of 300,000 lbs., to Homestead, a part of the 12,000-ton forging press, built for the Carnegie Steel Co. Just 136 tons of castings were loaded on it. The largest casting weighs 125 tons, and is to be shipped at once.

P. K. WOOD, 921 Main St., Los Angeles, Cal., reports that he has received contracts for the following pumps: Pittsburg, Kan., W.-Wks., is installing one of Wood's deep well propeller pumps. This pump will be inserted into an 8-in. well to a depth of 200 ft., and will have a capacity of 1,200 gallons per min. A 110-HP steam engine will drive the pump. The City of Madison, Wis., is having made at Los Angeles, for the water-works, a second Wood's deep well propeller pump. This will be driven by a direct connected vertical electric motor. Although Madison has excellent lake water on either side of the city, it prefers artesian water, and the two pumps will have a combined capacity of 3,000,000 gallons per day. The City of Tucson, Ariz., has purchased one of Wood's deep well propeller pumps for developing water for the city's supply. It is expected to secure 3,000 gallons per minute at a depth of 40 to 50 ft. This same pump will then be used to bring the water to the surface,from which point it will be forced into the water main with a high duty pumping engine.

THE CHICAGO ENGINEERING & CONSTRUCTION CO., 711 Merchants' Loan & Trust Bldg., Chicago, having a capital of $250,000, has acquired the established engineering and contracting business of the firm of Weston Bros., which firm designed the intramural transportation system for the Louisiana Purchase Exposition and assisted B. J. Arnold in the preparation of his report on Chicago local transportation. The company is now carrying on the supervision of construction of electric railways, including the line from Rockford to Freeport, Ill. It will undertake a general contracting business, and will also make a specialty of examinations and reports upon proposed or existing properties. After investigating the physical condition and operating practice of existing properties, the company will undertake to reorganize the operating forces and bring the entire system to conform to modern standards of practice. The officers of the company are as follows: Pres., Chas. V. Weston; Vice-Pres., Geo. Weston; Secy. and Gen. Mgr., Geo. A. Yuille; Counsel, Hervey B. Hicks.

PUBLICATIONS RECEIVED.

GAS AND PETROLEUM ENGINES.—A Manual for Students and Engineers. By William Robinson, M. Inst. C. E., M. Inst. M. E., Professor of Mechanical and Electrical Engineering in the University College, Nottingham, England. Second Edition, completely rewritten. New York: Spon & Chamberlain. London: E. & F. N. Spon. Cloth; 6 × 9 ins.; pp. 942; 471 illustrations, including three folding plates; 2 vols. $8.50.

MODERN CIVIC ART: Or the City Made Beautiful. By Charles Mulford Robinson. New York and London: G. P. Putnam's Sons. Cloth; 6 × 9 ins.; pp. 381. $2.50 net; by mail, $2.70.

DESCRIPTIVE GEOMETRY.—By J. C. L. Fish, Assoc. M. Am. Soc. C. E., Associate Professor of Civil Engineering in Leland Stanford Junior University. Stanford University, Cal.: The Author. Cloth; 6 × 8 ins.; pp. 64; one folding plate, and two figures in the text. $1.75.

COLONIAL AND CAMP SANITATION.—By George Vivian Poore, M. D., Professor of the Principles and Practice of Medicine, University College, London. London and New York: Longmans, Green & Co. Cloth; 6 × 7 ins.; pp. 39; 11 illustrations. 90 cts.

THE STORY OF A GRAIN OF WHEAT.—By William C. Edgar, Editor "Northwestern Miller." New York: D. Appleton & Co. Cloth; 5 × 8 ins.; 40 illustrations. $1 net; by mail, $1.10.

THE AMERICAN STEEL WORKER.—A Twenty-Five Years' Experience in the Selection, Annealing, Hardening and Tempering of Various Kinds and Grades of Steel. By E. R. Markham. New York: The Derry-Collard Co. Cloth; 6 × 8 ins.; pp. 343; 160 illustrations in the text. $2.50.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3½ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

CONCRETE MIXERS.—McKelvey Concrete Machinery Co., 171 La Salle St., Chicago. Paper, oblong, 9 × 6 ins.; pp. 24; illustrated.

The McKelvey mixer is of the drum type, driven by hand or power, and various patterns (for both batch and continuous mixing) are illustrated and described. Prices are given in each case.

ALUMINUM STEEL STORAGE TANKS.—Charles Efros Co., Bayonne, N. J. Mailing card; 11 × 7 ins.; illustrated.

Prices are here quoted for acid, oil and grease-proof cylindrical tanks from 5 × 8 to 12 × 12 ft., with capacities ranging from 60 to 324 barrels. The plates are cut, punched, bent and shipped, ready for erection.

WELL SINKING PLANT.—The American Well Works, Aurora, Ill. Paper; 6 × 9 ins.; pp. 32; illustrated.

This pamphlet consists of sample pages from the main catalogue, and is devoted mainly to various designs of well sinking rigs, for jetting and boring in soft material and drilling in hard rock. Pumps, tools, etc., are also shown; and dimensions and prices are given.

WELL SINKING MACHINERY.—The American Well Works, Aurora, Ill. Paper; 6 × 9 ins.; pp. not given; many illustrations.

Complete well-sinking outfits of the jetting, revolving, adamantine and other types, operated by various forms of power, and with many variations in detail, are included in this catalogue. Supplementary goods are also included.

INDUSTRIAL DEVELOPMENT.—Luis Jackson, recently appointed Industrial Commissioner of the Erie R. R., has issued a circular from his New York headquarters, calling to mind the resources along the lines of the Erie R. R. and the advantages offered by that road to promote industrial development.

PILE DRIVERS.—Vulcan Iron Works, Chicago, Ill. 6½ ins.; pp. 35; illustrated.

This interesting little catalogue shows all kinds of pile drivers and pile-driving implements. Among the novel features is a pile driver for driving fence posts. The Kearn's patent "follower" made of wrought iron pipe with steam pipes for releasing the follower when the pile is down, is an interesting device used in driving the foundation piles of the new Chicago Post Office where the cutoff was 20 ft. below the ground surface.

PUMPING MACHINERY.—The Stillwell-Bierce & Smith-Vaile Co., Dayton, O. Paper; 9 × 6 ins.; pp. 114; tables and illustrations.

One not well posted on the subject would be surprised to learn that a single concern makes such a variety of pumping machinery as is included in this catalogue. Boiler feed pumps alone comprise seven different kinds, including single, duplex, triplex, outside-packed, pot-valve, compound, power and vertical. Besides pumps the catalogue includes condensers, heaters, purifiers and filter presses. There are adso a number of useful general tables.

NOTICE TO CONTRACTORS.

CITY ENGINEER'S OFFICE,
BURLINGTON, IOWA, MAY 20, 1903.

Sealed proposals will be received at the office of the City Clerk until 4 o'clock P. M., Monday, June 15, 1903, and opened at the first regular or adjourned council meeting thereafter, for the construction of Stoney Lonesome Sewer from Valley to Angular Street—340 ft. of 8-ft. diam.; 840 ft. of 7-ft. diam.; 825 ft. of 6-ft. diam.; 825 ft. of 5-ft. diam., and 510 ft. of 4-ft. diam. brick, stone or concrete, in accordance with plans and specifications on file in the City Engineer's Office.

Each proposal must be accompanied in a separate envelope, by a certified check in the sum of $3,000.00, made payable to the order of the City Treasurer.

A bond in the sum of $7,000.00, with two or more resident sureties, or with a surety company, as surety, will be required for the faithful performance of the contract. Sureties must be satisfactory to the city council. In case a contract is awarded the work shall be commenced on or about Aug. 1, 1903, and completed on or before Aug. 1, 1907.

The city council reserves the right to reject any and all bids or to accept the proposal deemed by them to be for the best interests of the city. EMMET STEECE,
23-1t City Engineer.

NOTICE TO CONTRACTORS.

CITY ENGINEER'S OFFICE,
BURLINGTON, IOWA, MAY 20, 1903.

Sealed proposals will be received at the office of the City Clerk until 4 o'clock P. M., Monday, June 15, 1903, and opened at the first regular or adjourned council meeting therafter, for the construction of the Main Hawkeye Sewer from Jefferson to Washington Street—300 ft. of stone sewer, 18-ft. diam., in accordance with plans and specifications on file in the City Engineer's Office.

Each proposal must be accompanied in a separate envelope, by a certified check in the sum of $1,000.00, made payable to the order of the City Treasurer.

A bond in the sum of $2,500.00, with two or more resident sureties, or with a surety company, as surety, will be required for the faithful performance of the contract. Sureties must be satisfactory to the city council. In case a contract is awarded the work shall be commenced on or about July 1, 1903, and completed on or before July 1, 1904.

The city council reserves the right to reject any and all bids or to accept the proposal deemed by them to be for the best interests of the city. EMMET STEECE,
23-1t City Engineer.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 2, 1903.—Sealed proposals will be received at this office until 3 o'clock p.m., on the 24th day of June, 1903, and then opened, for the construction of a gallery and cases for plates and dies in the new plate vault at the Bureau of Engraving and Printing, Washington, D. C., in accordance with the drawing and specification, copies of which may be had at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 23-2t

For Proposals see pages XXXI., XXXII., of Advertisements, and pages 322, 323, 324, 325, of Supplement.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CAST-IRON WATER PIPE.

Office of the
Commissioners of Water-Works
in the City of Erie.
Erie, Pa., May 20, 1903.

Sealed proposals, addressed to the Commissioners of Water-Works in the City of Erie, and endorsed "Proposals for Cast-Iron Water Pipe," will be received at the office of the Commissioners until 3 o'clock p.m., June 27, 1903, and then publicly opened.

The work will consist of the manufacture and delivery f. o. b. cars Erie, Pa., of about 1,202 tons of Cast-Iron Water Pipe five (5) feet inside diameter, and about 6¾ tons of Special Castings for water pipe.

Each proposal must be made on a printed form, which, together with form of contract and specifications will be furnished upon application.

Each proposal must be accompanied by a certificate of deposit of some bank in the City of Erie, Pa., for the sum of One Thousand ($1,000) Dollars, made payable to the Commissioners.

The Commissioners reserve the right to reject any or all proposals.

CLARK OLDS,
G. F. BREVILLIER,
WILLIS B. DURLIN,
Commissioners of Water-Works in the City of Erie.

GEO. C. GENSHEIMER, Sec'y & Treas.
GEO. H. FENKELL, Civil Engineer to Commissioners. 23-2t

LAYING SUBMERGED CAST-IRON INTAKE WATER PIPE.

Office of the
Commissioners of Water-Works
in the City of Erie.
Erie, Pa., May 20, 1903.

Sealed proposals, addressed to the Commissioners of Water-Works in the City of Erie, and endorsed "Proposals for Laying Submerged Cast-Iron Intake Water Pipe," will be received at the office of the Commissioners until 3 o'clock p. m. June 27, 1903, and then publicly opened.

The work will consist in furnishing all material (except the cast-iron pipe and special castings and lead, which will be furnished by the Commissioners f. o. b. cars Erie, Pa.) and doing all dredging and other work necessary to lay a submerged cast-iron intake water pipe five (5) feet in diameter and about 2,800 ft. in length in Erie Harbor and Presque Isle, near the south shore of Presque Isle.

Each proposal must be made on a printed form, which, together with form of contract and specifications will be furnished upon application.

Each proposal must be accompanied by a certificate of deposit of some bank in the City of Erie, Pa., for the sum of One Thousand ($1,000) Dollars, made payable to the Commissioners.

The Commissioners reserve the right to reject any or all proposals.

CLARK OLDS,
G. F. BREVILLIER,
WILLIS B. DURLIN,
Commissioners of Water-Works in the City of Erie.

GEO. C. GENSHEIMER, Sec'y & Treas.
GEO. H. FENKELL, Civil Engineer to Commissioners. 23-2t

MANHOLE RINGS AND COVERS.

Cleveland, O., May 28, 1903.

Sealed proposals will be received at the office of the Secretary of the Board of Public Service, No. 108 City Hall, until 12 o'clock m., June 13, 1903, for furnishing, delivered at the Water-Works Office, No. 354 Superior St., or at such yard or yards as may be designated by the Superintendent of Water-Works, two hundred and forty-eight (248) tons, more or less, of Manhole Rings and Covers, for the Water-Works Division of the Department of Public Service of the City of Cleveland, O., during the year 1903.

Specifications and sample manhole rings and covers may be seen and blank proposals can be obtained at the office of the Superintendent of Water-Works.

Each proposal must contain the full name of the party or parties making the same, and all persons interested therein and must be accompanied by a certified check for Fifteen Hundred ($1,500) Dollars, payable to the Board of Public Service, on a solvent bank in the City, as surety that if the proposal be accepted a contract will be entered into.

No proposals will be entertained unless made on the blanks furnished by the Superintendent of Water-Works and delivered at the office of the Secretary of the Board of Public Service, No. 108 City Hall, previous to 12 o'clock m. on the day specified.

The City reserves the right to reject any or all bids.

BOARD OF PUBLIC SERVICE,
By W. J. SPRINGBORN, President.
A. R. GALLOW, Secretary Board of Public

BELL AND SPIGOT WATER PIPE, ETC.

South Deerfield, Mass., May 15, 1903.

Sealed proposals will be received by the Water Commissioners until 6 o'clock p. m., June 15, 1903, for about 500 tons Cast-Iron Bell and Spigot Water Pipes and Special Castings, 10-in. pipe to weigh 63 lbs. per ft.; 8-in. pipe to weigh 47 lbs. per ft. Also for hydrants, valves and valve boxes. 100 tons of pipe to be shipped before July 15, and 100 tons to follow every fifteen days. All delivered via B. & M. R.R. South Deerfield, Mass. The right is reserved to reject any or all bids or to accept such bid or bids as may be to the best interest of the District.

J. B. BRIDGES,
P. W. NEWELL,
C. F. BILLINGS,
23-2t Water Commissioners.

GRAVITY WATER-WORKS.

Coopersburg, Pa.

Sealed proposals will be received at Coopersburg, Pa., up to 5 o'clock p.m. on the 15th day of June, 1903, for furnishing the materials and doing the work necessary to construct a Gravity System of Water-Works for the Town of Coopersburg. It embraces approximately:

10,500 ft. 8-in. pipe.
4,500 " 6-in. "
5,000 " 4-in. "
25 double nozzle fire hydrants.
25 8x6x4-in. valves and boxes,
300,000-gallon reservoir.

Each proposal must be accompanied by a certified check for five hundred ($500) dollars, made payable to Marcus Clewell, President of Council, such check to be forfeited by the successful bidder in case he refuses to sign the contract for the work bid upon within 10 days of the time the same is awarded to him.

Plans may be seen and specifications and forms of proposals obtained at the office of the Engineer in Sellersville, Pa., or at the office of the Borough Clerk in Coopersburg, Pa. The Borough Council reserves the right to reject any or all bids for the work.

WARREN F. CRESSMAN,
M. L. ENGELMAN, Engineer.
Borough Clerk. 23-2t

SEWERAGE SYSTEM.

The Borough of Jersey Shore, Pa.

Sealed proposals for constructing certain Main Sewers in the Borough of Jersey Shore, Pa., addressed to Mr. I. Sallida, President of Council, will be received at the Borough Hall, until 8 p.m., Wednesday, June 24th, 1903, and at that time and place will be publicly opened and read.

The work includes the construction of
250 feet of 18-inch cast iron pipe,
50 " " 18-inch pipe sewer.
3,110 " " 15-inch " "
4,200 " " 12-inch " "
2,000 " " 10-inch " "
945 " " 8-inch " "
5,000 " " 4-inch house connections.
38 manholes.
3 flush tanks.
Sheathing, rock, branches, etc.

Each proposal must be accompanied by a certified check for fifteen hundred ($1,500) dollars. Plans can be seen and specifications secured at the office of the Borough Clerk, Jersey Shore, and at the office of the Engineer, 143 Liberty Street, New York City, on and after June 12th, 1903.

The right is reserved to reject any and all bids.

By order of the Borough Council.

M. I. SALLIDA, President.
J. FRANK GRAY, Secretary.
ALEXANDER POTTER,
23-3t Consulting Engineer.

CREMATORY FOR THE INCINERATION OF GARBAGE.

City of Shreveport, La., May 19, 1903.

Sealed proposals are hereby invited for the erection of a Crematory for the incineration of garbage in the City of Shreveport. Plans, specifications and daily capacity, together with a certified check in the sum of five hundred dollars, as evidence of good faith and guarantee to sign contract, to accompany each proposal. The plant to cost not exceeding $10,000. The contractor to accept payment in three annual instalments to be provided for in budget of expenses for the years 1904, 1905 and 1906, with 5% interest added. The City will provide location, and reserves the right to reject any or all bids and return checks.

Bids to be in hands of Comptroller by Monday, June 15, 1903, at 6 p. m. 22-3t

C. G. RIVES, Comptroller.

U. S. ENGINEER OFFICE, Portland, Ore., April 28, 1903.—Sealed proposals will be received here for constructing Two Iron Towers for Defense, mouth of Columbia River, until 11 a. m., June 8, 1903, and then publicly opened. Information on application. W. C.

600-FT. STEEL BRIDGE.

Grand Rapids, Kent Co., Mich.,
May 25, 1903.

Sealed proposals will be received by the Committee on Roads and Bridges of Kent County, Mich., at the office of the County Clerk, until 12 o'clock noon, on the 27th day of June, A. D. 1903, for furnishing all material and labor for constructing a Steel Bridge with the necessary foundations, piers, and abutments thereto, across Grand River, at North Park, between the townships of Grand Rapids and Walker. General plans and specifications for the work may be secured at the office of the County Clerk or the Engineer.

Plans for the piers and abutments shall be submitted in detail. The work contemplates a bridge about 600 ft. long, with a roadway of 20 ft. in the clear between the trusses. Bids on plans with and without sidewalks are desired.

All proposals shall be accompanied by a certified check, drawn to the order of the County Treasurer of Kent County, in the sum of $2,000. Bonds satisfactory to the Committee on Roads and Bridges to the amount of $15,000 will be required for the faithful performance of the contract.

The Committee reserves the right to reject any or all proposals, and reserves the right to award the contract as it deems for the best interest of the County.

F. C. CAMPBELL, Chairman.
CONNOR H. SMITH, County Clerk.
L. W. ANDERSON, Engineer. 23-1t

ELECTRIC LIGHT PLANT.

Greene, Chenango Co., N. Y.,
May 21, 1903.

Sealed proposals, addressed to the Board of Trustees, Village of Greene, N. Y., will be received at their office, until 7 o'clock p. m. Monday, June 8, 1903, for the following:

The furnishing and setting of two 72-in. x 18-ft. horizontal fire tubular boilers, with 74 4-in. flues and all boiler trimmings.

The Board will also entertain bids for water-tube or other patented types of boilers of equal capacity;

The construction of a power house, including a 75-ft. high chimney;

The furnishing of two 100-HP. engines;

The furnishing of two 60-KW. single-phase alternating dynamos and all station apparatus.

Bids will also be received for lamps, converters and pole line equipment.

General specifications can be seen at the office of the Board of Trustees at Greene, N.Y., or of Edgar B. Kay, Engineer, Ithaca, N. Y.

The Board reserves the right to reject any or all bids.

By order of the Board of Trustees of the Village of Greene, N. Y.

META L. COWLES,
22-2t Clerk of the Board.

WATER-WORKS AND ELECTRIC LIGHT BONDS.

Clayton, Ala., May 14, 1903.

The Town of Clayton will receive bids until Saturday, June 13, 1903, for the sale of Twenty Thousand Dollars of Municipal Electric Light and Water-Works Bonds. A certified check of Five Hundred Dollars must accompany each bid. The town reserves the right to reject any and all bids.

For particulars and information concerning said bonds, apply to

J. S. WILLIAMS, Mayor.
J. J. WINN, JR., City Clerk. 21-4t

190-FT. STEEL BRIDGE.

Newport, Ky., May 27, 1903.

Sealed proposals will be received until June 22d, 1903, at the office of County Judge at Newport, Ky., for Steel Bridge according to plan on file. One span 130 ft. and approach span 60 ft. Bidders are also invited to submit proposals upon their own plans.

W. J. HISSEM, County Judge.
C. W. YOUNGBLUT, County Attorney. 23-1t

CONSTRUCTION MATERIAL. — Office of the Commissioners, D. C., Washington, May 20, 1903.—Sealed proposals will be received at this office until 12 o'clock m. June 10th, 1903, for furnishing the District of Columbia the following classes of construction materials: 1. Granite curbing; 2. Asphalt blocks; 3. Red sewer bricks; 4. Sand and gravel; 5. Terra cotta sewer pipe and branches; 6. Vitrified sewer invert blocks and repressed vitrified sewer invert bricks; 7. Vitrified paving blocks; 8. Portland and Natural cement. Specifications, blank form of proposal and all necessary information may be obtained at this office. H. B. F. MACFARLAND, H. L. WEST, JOHN BIDDLE, Commissioners of the District of Columbia. 22-2t

U. S. ENGINEER OFFICE, Grand Rapids, Mich., May 25, 1903.—Sealed proposals for Extension of West Breakwater at Petoskey, Mich., will be received here until 3 p.m., June 24, 1903, and then publicly opened. Information furnished on application. M. B.

NOTICE TO CONTRACTORS.

CITY ENGINEER'S OFFICE,
BURLINGTON, IOWA, MAY 20, 1903.

Sealed proposals will be received at the office of the City Clerk until 4 o'clock P. M., Monday, June 15, 1903, and opened at the first regular or adjourned council meeting thereafter, for curbing with cement curb and the paving of Arch Street from 5th Street to 8th Street with asphalt—paving 3,300 sq. yds. curb and gutter 1,500 lin. ft., in accordance with plans and specifications on file in the City Engineer's office.

Each proposal must be accompanied in a separate envelope, by a certified check in the sum of $750.00, made payable to the order of the City Treasurer.

A bond in the sum of $2,000.00, with two or more resident sureties, or with a surety company, as surety, will be required for the faithful performance of the contract. Sureties must be satisfactory to the city council. In case a contract is awarded the work shall be commenced on or about July 1, 1903, and completed on or before Sept. 1, 1903.

The city council reserves the right to reject any and all bids or to accept the proposal deemed by them to be for the best interests of the city. EMMET STEECE,
23-1t City Engineer.

NOTICE TO CONTRACTORS.

CITY ENGINEER'S OFFICE,
BURLINGTON, IOWA, MAY 20, 1903.

Sealed proposals will be received at the office of the City Clerk until 4 o'clock P. M., Monday, June 15, 1903, and opened at the first regular or adjourned council meeting thereafter, for the construction of the Sixth Street Viaduct superstructure between Valley and Jefferson Streets—two 30 and one 40-ft. spans, 20-ft. roadway and two 5-ft. sidewalks, in accordance with plans and specifications on file in the City Engineer's office.

Each proposal must be accompanied in a separate envelope, by a certified check in the sum of $250.00, made payable to the order of the City Treasurer.

A bond in the sum of $1,000.00, with two or more resident sureties, or with a surety company, as surety, will be required for the faithful performance of the contract. Sureties must be satisfactory to the city council. In case a contract is awarded the work shall be commenced on or about ——————, and completed on or before Oct. 1, 1903.

The city council reserves the right to reject any and all bids or to accept the proposal deemed by them to be for the best interests of the city. EMMET STEECE,
23-1t City Engineer.

SEALED PROPOSALS, in duplicate, endorsed "Proposals for Coaling Plant Extension, Narragansett Bay Coal Depot, Bradford, R. I.," will be received at the Bureau of Equipment, Navy Department, Washington, D. C., until 1 o'clock p. m. on Wednesday, July 15, 1903, and then and there publicly opened. Proposals will be accompanied with plans and detail specifications, in duplicate, of the plant proposed to be furnished. General specifications and plans of the present plant and the proposed extension can be obtained at the Bureau of Equipment, also blank forms of proposals. Bidders are expected to visit the depot and make any examination deemed necessary for the preparation of plans and specifications. Data in regard to the location can be obtained on application. Bids for complete plant only will be considered. R. B. BRADFORD, Chief of Bureau of Equipment. May 27, 1903. 23-2t

U. S. ENGINEER OFFICE, Randolph Bldg., Memphis, Tenn., June 1, 1903.—Sealed proposals for construction of twelve material Barges for use in Third District, Improving Mississippi River, will be received here until 12 o'clock noon, July 1, 1903, and then publicly opened. Information furnished on application. CHAS. L. POTTER, Capt. Engrs. 23-2t

OFFICE CONSTRUCTING Q. M., Burlington, Vt., May 25, 1903.—Sealed proposals, in triplicate, will be received until 12 m. June 25, 1903, for constructing, heating, plumbing, gas piping and electric wiring of two sets Field Officers' Quarters, two double sets Captains' Quarters, three double sets Lieutenants' Quarters, and two double Cavalry Barracks, constructing and plumbing for four Cavalry Stables and construction of two Field Artillery Shop buildings, two double Cavalry Stable Guard Houses, one Quartermaster's Storehouse and one Magazine at Fort Ethan Allen, Vt. Information furnished on application. U. S. reserves right to reject or accept any or all proposals or any part thereof. Envelopes containing proposals to be endorsed "Proposals for Public Buildings, Fort Ethan Allen, Vt." Capt. T. B. LAMOREUX, Q.M. 22-4t

OFFICE OF THE CONSTRUCTING QUARTERMASTER, 621 Dooly Bldg., Salt Lake City, Utah, May 26, 1903.—Sealed proposals, in triplicate, will be received here until 11 a.m., Standard time, June 15, 1903, and then opened, for the construction of a Post Exchange and Gymnasium Building, including plumbing, gas piping, heating and electric wiring, at Fort Douglas, Utah. Bidders will state in their bids the time in which they will complete the work. Full information and blank forms of proposals furnished on application to this office. Plans and specifications may be seen here. United States reserves the right to accept or reject any or all proposals, or any part thereof. Envelopes containing proposals to be endorsed "Proposals for Public Buildings," and addressed to Capt. SAM-

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR PAVEMENT ON CLINTON ST.

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving Clinton St., from the present westerly terminus of the pavement on said street to the west line of Jarvis St., in accordance with the specifications prepared by the City Engineer, and now on file in the City Clerk's Office will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m. June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,
22-2t City Clerk.

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR PAVEMENT ON PROSPECT AVE (FROM LEWIS ST. TO SOUTH DEPOT ST.).

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving Prospect Ave., from Lewis St. to the north line of South Depot St., in accordance with the specifications prepared by the City Engineer, and now on file in the City Clerk's Office, will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m., June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,
22-2t City Clerk.

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR BRICK PAVEMENT ON FRONT ST. FOR PAVEMENT ON CONKLIN AVE.

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving Conklin Ave., from the present easterly terminus of the pavement of said avenue to the Pierce Creek Bridge, in accordance with the specifications prepared by the City Engineer, and now on file in the City Clerk's Office, will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m. June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR PAVEMENT ON SOUTH DEPOT ST. (CHENANGO TO LEWIS).

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving South Depot St., from Chenango to Lewis St., in accordance with the specifications prepared by the City Engineer, and now on file in the City Clerk's Office, will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m. June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,
22-2t City Clerk.

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR PAVEMENT ON FAYETTE ST.

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving Fayette St., from Court to Henry St., in accordance with the specifications prepared by the City Engineer, and now on file in the City Clerk's Office, will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m. June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,
22-2t City Clerk.

BRICK PAVEMENT.

NOTICE OF RECEPTION OF PROPOSALS FOR PAVEMENT ON FRONT ST.

City Clerk's Office,
Binghamton, N.Y., May 20, 1903.

Notice is hereby given that sealed proposals for Paving Front St., from Prospect St. to the City limits, in accordance with the specifications prepared by the City Engineer and now on file in the City Clerk's Office, will be received at the City Clerk's Office of the City of Binghamton, until 5 o'clock p. m., June 9 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for paving with vitrified brick and each bidder will be required to state in his proposal the kind of brick which he proposes to use. Bidders will be required to state separately price of both broken stone and gravel concrete.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall, in such case, complete said work when directed in the spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposals may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids. I. C. HULL,
22-2t City Clerk.

U. S. ENGINEER OFFICE, St. Augustine, Fla., May 9, 1903.—Sealed proposals for constructing Training Walls in St. John's River, Fla., will be received at U. S. Engineer Office, Jacksonville, Fla., until noon, June 9, 1903, and then publicly opened. Information furnished on application. FRANCIS R. SHUNK.

90,000 YDS. OF STREET PAVING.

Shreveport, La., May 22, 1903.

Sealed proposals will be received by the City Comptroller at the City Hall up to 6 o'clock p. m., June 26, 1903, for the Paving of the following streets in the City of Shreveport, La.:

No. 1—Marshall St., Crockett to Davis; approximate square yards..... 9,756.5
No. 2—Louisiana St. and Ave., Lake to Jordan; approximate sq. yds... 16,453.1
No. 3—Western Ave., Sprague to Hope; approximate sq. yds..... 2,204.8
No. 4—Hope St., Western to Texas; approximate sq. yds..... 7,473.4
No. 5—Texas Road, Cedar to corporation line; approximae square yards.... 12,159.9
No. 6—Southern Ave., Jordan to Dasheil; approximate square yards..... 4,418.7
No. 7—Cotton St., Marshall to Texas Ave; approximate square yards..... 7,212.3
No. 8—Commerce St., Cotton to Lake; approximate square yards 5,927.9
No. 9—Caddo St., Market to alley rear Ardis & Co.; approximate sq. yds.. 2,427.2
No. 10—Tannin St., Market to Commerce; approximate square yards..... 3,084.9
No. 11—Stower Ave., Louisiana to cemetery gate; approximate sq. yds... 11,273.1
No. 12—Irving Place, Jordan to Olive; approximate square yards..... 6,851.54

The paving to be of brick or brick and asphalt, or Warren Bros.' Bitulithic Pavement, as per plans and specifications on file in the Engineer's Office.

Each street to be bid on separately, and all bids must be made on and in accordance with special blanks furnished by the City Engineer, under whose supervision all work will be done.

A certified check equal to 10% of the amount bid to accompany each bid as a guarantee that bidder, if successful, will furnish satisfactory bond and enter into contract as per his bid.

A maintenance bond of 10% of contract as let will be required of successful bidders for maintenance of work for five years.

The City reserves the right to reject any and all bids. C. G. RIVES,
22-4t Comptroller.

STONE AND GRAVEL ROAD.

Monmouth County, N. J.

Sealed proposals will be received by a committee of the board of chosen freeholders of the County of Monmouth, at the court house in Freehold, N. J., on Monday, June 15, 1903, until 10 o'clock a. m., and then publicly opened, for the construction of a stone and gravel road, under the state aid act, four and one-half miles in length, on Corlies Avenue, from West Grove to Hamilton, in the Township of Neptune, in said County. Each bidder must accompany his bid with a certified check for one thousand dollars ($1,000), made payable to the director of the board of chosen freeholders of said County, as a guarantee that if said contract is awarded to him, he will, when required by the board, execute an agreement in writing to faithfully perform the work according to the plans and specifications. All proposals must be made on the blank form furnished for that purpose. Plans can be seen at the office of the Engineer, W. H. DeNyse, 164 Broadway (Post Office Building), Long Branch, N. J. Specifications and blank forms of proposals can be obtained from the County Collector, Freehold, N. J., or of the engineer.

The right to reject any or all bids is reserved.

JOHN GUIRE,
Director Board of Chosen Freeholders, Long Branch, N. J. 22-3t

BRICK, WOOD OR MACADAM PAVING.

City of Bridgeport, May 18, 1903.

Sealed proposals will be received by the Street Committee of the Common Council of Bridgeport, Conn., at Room 10, City Hall, until 8 o'clock p.m. of Friday, June 12, 1903, for furnishing and laying about 4,100 sq. yds. of Brick, Wood or Bituminous Macadam Pavement.

A certified check for $1,000, made payable to the City of Bridgeport, must accompany each bid.

Specifications, including form for bid, may be had by addressing H. G. Scofield, City Surveyor.

The right to reject any and all bids is reserved. E. T. BUCKINGHAM,
21-3t Clerk.

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m. June 26, 1903 and then opened, for furnishing the materials and labor necessary for the construction and delivery of the Sabine Bank Light Station, Tex., in accordance with specifications, copies of which, with blank proposals and other information may be had upon application to Capt. WILLIAM E. CRAIGHILL, U.S.A., En-

BRICK, BLOCK, ASPHALT AND MACADAM PAVING.

Rensselaer, N.Y., May 22, 1903.

Sealed proposals will be received by the Common Council at the office of the City Clerk until 8 o'clock p.m., June 16, 1903, for the Grading and Paving with Brick, Granite Blocks, Asphalt and Bituminous Macadam Waterproof Pavement and furnishing and setting Granite Curb, building new Catchbasins and repairing old ones, and all other work which may be necessary to complete the proposed improvements on Second Ave., Columbia St., Broadway, Third St., Fowler Ave., and Fourth St., according to plans and specifications on file in the City Clerk's Office or in the office of C. A. Roemer, Engineer, 508-509 Cannon Place, Troy, N. Y.

The approximate amount of paving is 34,509 cu. yds.

The approximate amount of curbing is 19,307 lin. ft. 22-2t

C. A. ROEMER, City Engineer.
A. J. HOOGKAMP, City Clerk.

BRICK AND PIPE SEWER CONSTRUCTION.

Shreveport, La., May 22, 1903.

(1) Sealed proposals will be received at the office of the City Comptroller until 6 p.m. June 26th, 1903, for constructing the following sewers:

778 lin. ft. 18-in. vitrified pipe sewer;
1,029 " " 24-in. " " "
366 " " 30-in. circular brick or concrete sewer;
362 " " 42-in. circular brick or concrete sewer;
373 " " 54-in. circular brick or concrete sewer;
40 " " 72-in. circular brick or concrete sewer;

With manholes, catchbasins, complete.

(2) Plans and specifications may be seen and blank proposals obtained at the office of the City Engineer after May 26th.

(3) Each proposal must contain full name of party or parties making same and must be accompanied by certified check equal to 10% of the estimated amount of contract, payable to the City Comptroller as surety that, if the proposal be accepted, a contract will be entered into.

(4) No proposal will be entertained unless made on blanks furnished by the City Engineer.

(5) A bond equal to full amount of the contract as let will be required of contractors to secure faithful performance of contract.

(6) The city reserves the right to reject any and all bids. C. G. RIVES,
22-4t Comptroller.

STEEL OR WOODEN BRIDGES.

Parish of Caddo, Shreveport, La.
BIDS ARE INVITED.

For building either Wooden or Steel Bridges at the following places: Bridge over Dooley Bayou, about 160 ft. long, at Section Six plantation, in Ward 1, of Caddo Parish; also for Steel or Wooden Bridge, with earthwork approaches at Hale's Ferry, between Wards 1 and 2, bridge 150 ft. long and earthwork about 400 yds.; also bridge over Red Bayou in Ward 1, at Gilliam, about 200 ft. long, either pile driven or steel. Bids to be opened at meeting of jury, June 18, 1903. The jury reserving the right to reject any and all bids.

P. P. KEITH, President.
A. L. DURINGER, Clerk. 22-3t

Proposal Advertisements

EXPERIENCE—LOWER PRICES

"Money saving" advertisements calling for bids in Engineering News for May 28.

Take notice that the entire contracting field is covered.

	Inches.	No. Advt.
Bonds, Public Improvement....	1¾	1
Bridges and Masonry Work.....	2	1
Buildings, Jails....	9	6
Cement, Sand Supplies...	2	2
Har.or and River Work.....	15	14
Electric Light and Power.....	9	4
Paving, Road Work.....	80	16
Sewerage.....	31	8
Water Works, Wells, Pumps and Supplies.....	21	8
Garbage Disposal, St. Cleaning.	2	1

Besides the above, bids have recently been asked through Engineering News, for Tunnels, Manufacturing Plants, Steam Shove Work, Conduits, Dams, Drainage, Locks, Railway Work, Chimneys, etc.

Advertise all Municipal, County and Large Private Work in Engineering News

12 MILES OF MACADAM ROADS.

Burlington County, N. J.

John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, hereby calls for bids for the construction of the following macadam roads in the County of Burlington:

1. Road beginning at a point where the Red Lion and Vincentown Road intersects the stone road from Vincentown to Crossroads, known as the "Vincentown and Red Lion Road," and runs in a southerly direction following the line of the Vincentown and Red Lion Road to the village of Red Lion, a distance of about three and a half miles. Said road is to be 12 ft. wide and 6 ins. deep.

2. Road known as the Bordentown and Crosswicks and Chesterfield Road, consisting of two sections as follows:

(a) Road beginning at the city line of the City of Bordentown, and extending to the intersection of Bridge Ave. and Main St., in the Village of Crosswicks, about three and one-fifth miles long;

(b) Road beginning at its intersection with the last-mentioned road, and extending to the Village of Chesterfield, a distance of about two miles.

Said road, composed of the two sections aforesaid, to be 12 ft. wide and 6 ins. deep.

3. Road from Masonville to Moorestown. This road is to be of different widths and different depths, as will be seen by an examination of the specifications. This road is about three miles in length.

Bids will be received for the construction of these roads, upon the following conditions:

1. All bids shall be in writing.

2. All work and construction to be done on said roads shall be strictly according to the specifications prepared, and approved by the State Commissioner of Roads, and the said Board of Chosen Freeholders.

3. Each bidder must accompany his bid with a certified check, payable to John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, for one thousand ($1,000) dollars, as a guarantee that if said work is awarded to said bidder he will enter into a contract with said Board to do the work.

4. The successful bidder will be required to give a surety company bond to secure his contract in an amount equal to the estimated cost of said work.

5. All bids shall be presented to a committee appointed by said Board of Freeholders, at the Court House, in Mount Holly, N.J., on Monday, the 8th day of June, next, at 2 o'clock in the afternoon, at which time and place all bids will be immediately opened and publicly read.

6. No bids shall be presented to any member of said Board of Freeholders or any member of the committee thereof, except at the above stated time and place.

7. That the Board of Chosen Freeholders retains the privilege of rejecting any or all bids.

JOHN E. DARNELL,
Director.

N. B.—The plans and specifications for the above mentioned road can be seen at the law offices of Charles K. Chambers, in the Masonic Temple, Mount Holly, N. J. 21-3t

MACADAM ROAD.

NOTICE OF RECEPTION OF PROPOSALS FOR MACADAM ROAD ON FRONT STREET.

City Clerk's Office.
Binghamton, N. Y., May 20, 1903.

Notice is hereby given that sealed proposals for paving:

Front St., from Prospect St. to the city limits.

In accordance with the specifications prepared by the City Engineer and now on file in the City Clerk's office, will be received at the City Clerk's office of the City of Binghamton, until 5 o'clock p. m., June 9, 1903, and will be opened by the Common Council at a meeting to be held on said date.

Proposals will be received by said Common Council for building macadam road.

Bidders shall, after stating price for the work, also state price per cubic yard which they will allow the city for broken stone to be taken by contractor at the stone yard in the city.

The successful bidder shall agree that if from cause the work specified shall not be fully completed within the time specified it shall be optional with the city to stop the work at any time after the time fixed by the specifications for completion, and the contractor shall in such case, complete said work when directed in the Spring of 1904, and each bidder shall insert such agreement in his proposal.

Blank forms for proposal may be obtained of the City Clerk at his office.

The Council reserves the right to reject any or all bids.

I. C. HULL,
City Clerk.
22-2t

OVER 130 MILES OF STATE HIGHWAY IMPROVEMENTS.

NOTICE TO CONTRACTORS.

State of New York,
Office of the State Engineer and Surveyor,
Albany, N. Y., May, 1903.

Pursuant to Chapter 115 of the Laws of 1898, sealed proposals will be received by the undersigned, at his office in the State Hall, at Albany, N. Y., on Monday, the 8th day of June, 1903, at 12 o'clock noon, for the improvement of public highways, as follows:

No. 72—Catskill Road, Tompkins county; length, 1.869 miles.
No. 126—Town Line Extension Road, Broome county; 1.970 miles.
No. 127—Park Bridge Road, Broome county; length, 2.040 miles.
No. 128—Aurora-Buffalo Road, Erie county; length, 5.573 miles.
No. 129—River Road, Secs. 2-3, Erie county; length, 3.015 miles.
No. 130—Main Street Road, Sec. 4, Erie county, length, 5.625 miles.
No. 131—Main Street Road, Sec. 5, Erie county; length, 6.581 miles.
No. 132—Genesee Turnpike, Onondaga county; length, 1.130 miles.
No. 133—Little Falls-Dolgeville Road, Herkimer county; 2.290 miles.
No. 134—Fenton Road, Broome county; length, 2.170 miles.
No. 135—Violet Avenue Road, Dutchess county; length, 3.290 miles.
No. 136—Windsor Road, Sec. 2, Clinton county; length, 1.750 miles.
No. 137—Plattsburg-Keeseville, Sec. 2, Clinton county; 4.520 miles.
No. 138—Plattsburg-Mooers, Sec. 1, Clinton county; 7.570 miles.
No. 139—Hamilton Bridge Road, Oneida county; length, 1.290 miles.
No. 140—Seneca Turnpike, Oneida county; length, 2.280 miles.

Sealed proposals will also be received by the undersigned at his office in the State Hall at Albany, N. Y., on Wednesday, the 10th day of June, 1903, at 12 o'clock noon, for the improvement of public highways as follows:

No. 141—Kingston-Ellenville, Sec. 3, Ulster county; 6.820 miles.
No. 142—Saugerties-Woodstock, Sec. 3, Ulster county; 2.860 miles.
No. 143—Echo Lake-Pine Bridge, Westchester county; 3.140 miles.
No. 144—Bedford-Cross River, Westchester county; 5.230 miles.
No. 145—Delaware River Road, Delaware county, length, 1 mile.
No. 146—Geneva-Canandaigua Road, Ontario county; 5.624 miles.
No. 147—Burr's Mills Road, Jefferson county; 3.920 miles.
No. 148—Pine Bridge-Yorktown Heights, Westchester county; 3.490 miles.
No. 149—Yorktown Heights-Putnam county Line, Westchester county; 6.620 miles.
No. 150—Cross River-Turk Hill, Westchester county; 3.460 miles.
No. 151—Turk Hill-Putnam County Line, Westchester county; length, 5.520 miles.
No. 152—Fonda, East, Montgomery county, length, 2.500 miles.
No. 153—Newburg-Campbell Hall, Orange county; length, 13.380 miles.
No. 154—Chester-Vails Gate, Orange county length, 11.490 miles.
No. 155—Fonda, West, Montgomery county length, 2.500 miles.
No. 156—Chester-Goshen Road, Orange county; length, 3.530 miles.

Plans and specifications for all of the above work may be seen at the office of the undersigned. They may also be seen for all roads in the counties of Herkimer, Dutchess, Clinton, Ulster, Westchester, Delaware, Montgomery and Orange at the office of H. A. Van Alstyne, Division Engineer, State Hall, Albany, N. Y., for the counties of Tompkins, Broome, Onondaga, Oneida and Jefferson, at the office of W. H. H. Gere, Division Engineer, Weighlock, Syracuse, N. Y.; for the counties of Erie and Ontario, at the office of A. J. Rockwood, Division Engineer, Triangle Building, Rochester, N. Y. Plans and specifications for the roads within each of the following counties may be seen at the office of the County Clerk of the county within which each road is located, respectively: Tompkins, Herkimer, Dutchess, Delaware, Montgomery and Jefferson; and at the office of the Clerk of the Board of Supervisors of the county within which each road is located respectively: Broome, Erie, Onondaga, Clinton, Oneida, Ulster, Westchester, Ontario and Orange.

The attention of bidders is called to the fact that the following roads are in such close proximity to each other that they can be economically managed by the same contractor: Nos. 126, 127 and 134; Nos. 130, and 131; Nos. 139 and 140; Nos. 152 and 155; Nos. 143, 148 and 149; Nos. 144, 150 and 151.

Proposals must be made for the completion of each road for a lump sum in accordance with plans and specifications. Each proposal must be accompanied by New York draft or certified check payable at sight to the order of the State Engineer and Surveyor for 5% of the proposal. Such draft or check will be held until the execution of the contract. The successful bidder must give a bond executed by a surety company approved by the undersigned and in the amount not to be less than 50% of the contract price. Attention is called to the fact that 90% monthly payments will be made instead of 75% as formerly.

Proposals for each road must be presented in a separate sealed envelope endorsed on the outside with the number and name of the road for which the proposal is made.

Specifications, bidding sheets and form of contract may be had on application to the undersigned or to the Division Engineers above mentioned.

The right is reserved to reject any and all bids.

EDWARD A. BOND,
State Engineer and Surveyor.
21-3t

U. S. ENGINEER OFFICE, 1637 Indiana Ave., Chicago, Ill., May 27, 1903.—Sealed proposals for manufacture and erection of four riveted Steel Highway Bridges will be received here until noon, June 27, 1903, and then publicly opened. Information on application here, or to Assistant Engineer, L. L. WHEELER, Sterling, Ill. J. H. WILLARD, Maj. Engrs. 23-4t

ECONOMICS OF ROAD CONSTRUCTION

By H. P. GILLETTE

Cloth, 6x9 ins. Price, $1.00

A BOOK ON

COSTS

Giving Costs of Quarrying, Crushing, Hauling, Spreading and Rolling of Macadam, Based upon Actual Cost of Contract Work.

The Engineering News Publishing Company, 220 Broadway, New York.

15 MILES OF TELFORD MACADAM ROADS.

Essex County, N. J.

Sealed proposals will be received by the Committee on Roads and Assessments of the Board of Chosen Freeholders of Essex County, N. J., for Grading and Paving with Telford Pavement the following avenues and roads:

Grove St., in the City of East Orange, Borough of Vailsburg and Town of Irvington, extending from Central Ave, East Orange, to Clinton Ave., Irvington, a distance of about 2 miles;

Swamp Road, in the Township of Caldwell and Livingston, extending from Bloomfield Ave., Caldwell, to Mt. Pleasant Ave., Livingston, a distance of about 5 miles;

Dutch Lane, in the Township of Caldwell, extending from Bloomfield Ave. to Fairfield Road, a distance of about 2⅔ miles;

Ridgewood Ave., in the Borough of Glen Ridge, extending from Bay Ave. to Watchung Ave., a distance of about 1⅛ miles;

Hobart's Gap Road, in the Township of Livingston and Millburn, extending from Northfield Road, Livingston, to the Morris Turnpike, a distance of about 4 miles.

The proposals to be submitted to the Committee on Thursday, June 11, at 11 a.m., at the office of the Committee, 196 Market St., Newark, N.J., and at no other time or place, each road to be bid for separately.

Each proposal to be accompanied with a certified check for one thousand ($1,000) dollars as surety for the execution of the necessary contract, and is to be endorsed on the outside with the name of the bidder and the work proposed to be done.

Plans and specifications can be seen at the above office.

The Committee reserve the right to reject any or all bids. 22-2t

THOMAS McGOWAN, Director.

MACADAM AND GRAVEL ROADS.

Burlington County, N. J.

John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, hereby calls for bids for the construction of the following roads in Burlington county, N. J.

1. A macadam road from Beverly to the intersection of the stone road running from Burlington to Bridgeboro, said road being about 2½ miles in length.

2. A gravel road beginning at the bridge over Bass River, in the township of Bass River, and extending to the Ocean county line, a distance of about three miles. This road is to be 14 feet wide.

Bids will be received for the construction of these roads, upon the following conditions:

1. All bids shall be in writing.

2. All work and construction to be done on said roads shall be strictly according to the specifications prepared, and approved by the State Commissioner of Roads, and the said Board of Chosen Freeholders.

3. Each bidder must accompany his bid with a certified check, payable to John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, for one thousand dollars ($1,000) as a guarantee that if said work is awarded to said bidder he will enter into a contract with said Board to do the work.

4. The successful bidder will be required to give a Surety Company bond to secure his contract in an amount equal to the estimated cost of said work.

5. All bids shall be presented to a committee appointed by said Board of Freeholders, at the Court House, in Mount Holly, N. J., on Saturday, the twentieth day of June next, at 11 o'clock in the forenoon, at which time and place all bids will be immediately opened and publicly read.

6. No bids shall be presented to any member of said Board of Freeholders, or any member of the committee thereof, except at the above stated time and place.

7. That the Board of Chosen Freeholders retains the privilege of rejecting any or all bids.

JOHN E. DARNELL,
Director.

N. B. The plans and specifications for the above mentioned roads can be seen at the law offices of Charles K. Chambers, in the Masonic Temple, Mount Holly, N. J. 23-3t

MACADAM ROAD.

Monmouth County, N. J., May 25, 1903.

Sealed proposals for building the first section of the Manalapan and Freehold Macadam Road, under the provisions of the state aid road laws of New Jersey, and as designated in the plans and specifications, will be received by the Committee of the Board of Chosen Freeholders of the County of Monmouth at the Court House in Freehold, N. J., on Monday, the Fifteenth Day of June, A. D. 1903, at 10 o'clock in the forenoon, and then and there publicly opened.

Specifications and information regarding said construction may be had by applying at the County Collector's Office in Freehold, N.J. or of Peter Forman, Engineer, Manalapan N.J., or of Elias Vanderveer, Chairman of the Road Committee, Manalapan, N.J.

Each sealed bid must be plainly endorsed "Proposals to Build the First Section of the Manalapan and Freehold Macadam Road," and must be accompanied with a certified check for one thousand dollars payable to the Director of the Board of Chosen Freeholders as a guarantee that if said work is awarded to the bidder he will enter into a written contract and agreement with said Board of Freeholders when thereto required to truly and faithfully perform all of said work according to the plans and specifications; and further at the same time will execute and deliver to said Board of Freeholders his bond in a penal sum of at least the total estimated cost of the work, with two or more freeholder of said county as sureties, to be approved by the Director of the Board, conditioned for the faithful performance of said work in strict conformity with plans and specifications.

The Board of Freeholders reserves the right to reject any and all bids.

JOHN GUIRE,
Director of the Board of Chosen Freeholders
23-2

COMMONWEALTH OF MASSACHUSETTS.
METROPOLITAN WATER AND SEWERAGE BOARD.

BUILDING ROAD.

Sealed proposals will be received at the office of the Metropolitan Water and Sewerage Board, 1 Ashburton Place, Boston, Mass., until 2:30 o'clock p. m. of Wednesday, June 10, 1903, for building a road at the Wachusett Reservoir in West Boylston, Mass. The quantity of earth excavation is approximately 12,000 cu. yds., and there is also a small amount of masonry, rock excavation, slope paving and sewer pipe laying. Pamphlets containing further information for bidders, forms of proposal, contract and specifications will be mailed to contractors who apply to the Chief Engineer, or may be obtained at his office, 1 Ashburton Place, Boston, and may also be obtained at the Clinton office. Plans may be seen at the offices of the Board in Boston, Clinton, West Boylston and Oakdale. HENRY H. SPRAGUE, HENRY P. WALCOTT, JAMES A. BAILEY, JR., Metropolitan Water and Sewerage Board. FREDERIC P. STEARNS, Chief Engr. WILLIAM N. DAVENPORT, Secretary. Boston, May 25, 1903. 22-2

For Proposals see pages XXXI., XXXII. of Advertisements and pages 322, 323, 324, 325 of Supplement.

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Agencies.
Moore, J D, 45 Liberty st, New York

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 412-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
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Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
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Vulcan Iron Works, Wilkesbarre, Pa

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Pittsburg Reduction Co, Pittsburg, Pa

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Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 123 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
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Commercial Asphalt Co, 11 Broadway, New York
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Cummer, F D. & Sons, Cleveland, O.
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2322 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

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Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

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Bristol Co, Waterbury, Conn

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Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E G, 123 E 23d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
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Boilers.
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Columbiana Boiler Co, Columbiana, Ohio
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
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Kingsford Foundry & Machine Works, Oswego, N Y
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Lidgerwood Mfg Co, 96 Liberty st, New York
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Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

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(see also Air Brakes.)

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Abertnaw Construction Co, Boston. Mas

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Vulcan Iron Works, Chicago

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King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros. Bridge & Iron Co, St. Louis, Mo

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Baltimore Bridge Co, Lush st & B & O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 407 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
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Easton Foundry & Machine Co, Easton, Pa
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General Supply & Construct'n Co, 8-10 Bridge st, N
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Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, & Co, Wilmington, Del

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Western Cement Co, Louisville, Ky

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Kent Mill Co, 120 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
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West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
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Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

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Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
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(see also Laboratories.)

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Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row. N Y
Simpson, H S, Electric bldg, Cleveland
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Colleges (Engineering.) (see page IV.)

Concentrators.
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Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
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Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Concrete Steel Construction
Abertnaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Turner Cons. Co, 11 Broadway, N Y

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B, Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co., Stamford, Conn

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1208 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W E, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
Murphy, J M & Co, Windsor Arcade, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Priest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Standard Supply & Equipment Co, Philadelphia
Wickes Bros New York and Saginaw, Mich

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 53 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st. Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans La
Norfolk Creosoting Co, Norfolk, Va
Southern Cresoting Co, Slidell, La
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote W'ks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Cobble Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Bein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Foy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 36th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills).

Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 960 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 15th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Il
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

ADVERTISERS' CLASSIFIED DIRECTORY.

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Haisted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Beisler, Chas. L, Erie, Pa
Kelly, O S. Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

Excavators and Excavating Machinery (see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 910 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas. L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
International Fence & Fireproofing Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Filet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 92 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Bromley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 121 Liberty st, New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago Ill

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 506 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2031-63 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
Koppel, Arthur, 66-68 Broad st, N Y
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnaces.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Exhausters.
Connersville Blower Co, Connersville, Ind

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 526 Pearl st, Berlin. Wis

Governors (Water-Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Mannattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon. Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co. Geo. V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
General Pneumatic Tool Co, Montour Falls, N Y

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 506 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 295 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood. R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton. O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co. Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D. & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co. 348 N Haisted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L. & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co. 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Alteneder, Theo, & Sons, 945 Ridge ave, Phila. Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st Toledo, Ohio
Berger, C L., & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridgeav, Phila
Hetterschied Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 901 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G. 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co. 303-312 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 42d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 4th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co. Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co, Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st. Phila
Julian Bros., 110 Mott st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co .Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st, New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand.
(See Railway Equipment. Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Stamford, Conn
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 314 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co. 1331 Monadnock blk Chicago
Contractors' Plant Depot, 27 William st, New York
Driscoll, J. T., McCormick bldg, Chicago
Efros Co, Chas, Bayonne, N J
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S, Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O R, 39 Cortlandt st, New York

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
AmRy Supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 635 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton, E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 130 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West av, Long Island City, N Y

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 65 Woodland ave, Cleveland, O
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York
Zibell Damp-Resisting Paint Co, N Y

Paint (Cold Water).
Bird & Co, J A & w, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N Y

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Cast Iron).
Builders Iron Foundry. Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emmaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Abendroth & Root Mfg Co, Newburgh, N Y
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila P
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Miliar, Chas, & Son, Inc, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
General Pneumatic Tool Co., Moutour Falls, N Y
Heiwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chicago Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 150 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cressop, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 189 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Scranton Steam Pump Co, Scranton, Pa
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 66-68 Broad st, New York

Pumps (Rotary).
Connersville Blower Co, Connersville, Ind

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 300 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rails (Relaying).
Continental Equipment Co, 5-11 Battery Place, N Y
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 902 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Aetna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Oastler, W C, 157 Fifth ave, New York
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 120 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel)
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 100 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 13 Park Row, New York

Schools (Correspondence).
Am. School of Armour Inst. of Tech. Chicago
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Stuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Columbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
Plenty, Josephus, Jersey City, N J
Vaile & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st. Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co. 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C. R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O.
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Trazing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton, O
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Connersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Miliar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 408 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Gassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMunen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

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